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ABSTRACT

In recent years a considerable amount of interest has developed in language variability and in the educational problems connected with it. This volume is a report of linguistic research on the variable language behavior in a community of American English speakers, specifically on some aspects of tense marking in Black English. The following topics are discussed: (1) the status of tense marking in Black English, (2) the unity of Black English, (3) correlation with social factors, and (4) application of variable rule theory. General section headings are: "Past Tense," "Present Tense," "Distributive 'be'," "Grammatical and Phonological Variation," and "Correlation with Social Factors." A study of noun plural absence by Carolyn Kessler is appended, as well as a sample questionnaire and a list of speakers. (AM)

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TENSE MARKING IN BLACK ENGLISH

A LINGUISTIC AND SOCIAL ANALYSIS

RALPH W. FASOLD

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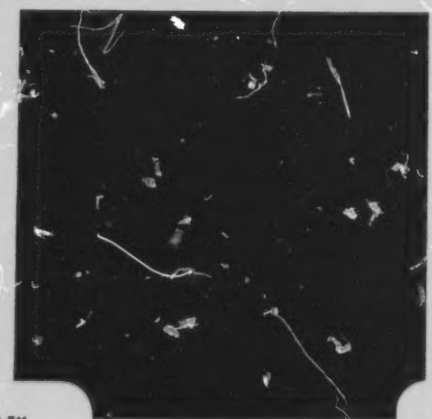

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TENSE MARKING

IN BLACK ENGLISH

A LINGUISTIC AND SOCIAL ANALYSIS

RALPH W. FASOLD

WITH A CHAPTER ON NOUN PLURAL ABSENCE
BY CAROLYN KESSLER

CENTER FOR APPLIED LINGUISTICS : 1972

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INTRODUCTION TO THE SERIES

The Urban Language Series is intended to make available the results of recent sociolinguistic research concerned with the position and role of language in a large metropolitan area. The series includes descriptions of certain aspects of urban language, particularly English, as well as theoretical considerations relevant to such descriptions. The series also includes studies dealing with fieldwork techniques, matters of pedagogy and relationships of urban language study to other disciplines. Where appropriate and feasible, accompanying tape recordings will be made available. Specifically excluded from consideration are aspects of English as a second language or second language learning in general.

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is the contention of some scholars that a person's use of language is one of the most important cues to his social status, age, race or sex.

For the educator, the series will offer among other things a description of the very things which are most crucial to the classroom—the linguistic correlates which separate the accepted from the unaccepted.

Although the value of focussed attention on the special problems of urban language has been recognized for some time, relatively few substantial studies have been published. To a certain degree, this series represents a pioneering venture on the part of the Center for Applied Linguistics.

Roger W. Shuy
Center for Applied Linguistics

TENSE MARKING IN BLACK ENGLISH

PREFACE

Interest in the speech of black Americans has increased within the last several years as linguists have seen the study of Black English as an area in which their work might have social relevance. This volume is, in part, a product of such motivation, as its detailed study of some aspects of tense marking in Black English provides background information on which pedagogical materials might be based. More importantly, it abundantly demonstrates that what appear to be inadequacies in pronunciation and grammar are actually regular phenomena governed by intricate rules. It is my hope that the explication of some of these rules will, at least indirectly, lead to a more respectful treatment of Black English and its speakers than is sometimes the case among educators.

This study is not the first of its kind. Since William Labov's (1966a)* epochal research on English in New York City demonstrated the rich intellectual rewards to be reaped from linguistic analysis of broadly-based empirical data, there have been a number of attempts to apply his insights and methods to Black English, as well as to other language varieties. In fact, this book can appropriately be considered a sequel to two previous detailed studies of urban black speech: William Labov et al. 1968 and Walt Wolfram 1969. For the most part, we have been able to show that what Labov and his colleagues

*For references, see the Bibliography, pages 251-254.

discovered about Black English in New York City and what Wolfram found in Detroit Black English is also true of the dialect in Washington, D.C., from which our data are taken.

This is basically a linguistic study, and the major focus is on linguistic issues, although the correlation between linguistic and social factors is discussed in chapter 7. One of the primary purposes of the study is to show that much can be learned about the theory of grammar if variation in language is taken into account. It is illustrative of the principles developed by such leading variation theorists as William Labov and Charles-James Bailey as applied to a specific set of data. We would be delighted if linguists were to take these research results as evidence in favor of variation theory.

In addition to my own research on verb forms, this volume also includes an annex by Carolyn Kessler on noun plural forms in Black English, originally a Georgetown University term paper, which is based on the same data. Although somewhat tangential to the main theme of the work, there are at least three reasons why Kessler's research should be reported here. The collection of the Washington data involved considerable effort and expense. The work on tense marking draws on only a small part of the wealth of linguistic information contained in it. It seems appropriate to maximize the usefulness of the body of data by including the plural study as well. Furthermore, the arguments concerning the status of the -ed and -s suffixes in chapter 6 involve the plural -s suffix as well as verb concord -s. Therefore it is convenient to have data on the plural available in the same volume. Finally, Kessler's application of the kind of implicational analysis originally proposed by David DeCamp 1971 is an early discussion of an innovation which has assumed increasing importance in variation theory. Including Kessler's work makes this discussion available in a volume in which variation theory is the theoretical orientation.

In extending thanks to the many people who helped make the study possible, the residents of Washington, D.C. who supplied the interview data come to mind first. Had I not been able to find people willing to submit to the forty-five minute interview, the whole study would have been totally impossible. To these people I am most thankful.

I also gratefully acknowledge the support of grants to the Center for Applied Linguistics by the Ford Foundation and especially by the Carnegie Corporation of New York, under which the bulk of the research was conducted. Acknowledgment of support is also due the National Science Foundation, under whose grant to the Georgetown University School of Languages and Linguistics some of the final writing was completed.

A number of my colleagues at the Center for Applied Linguistics contributed substantially to the completion of the research. Shannon Clarkson, who served as my research assistant, spent many painstaking hours in extraction of data from the recorded interviews. I owe a debt of gratitude to Carolyn Cunningham, Virginia Lundstrom, Walt Wolfram, Veronica Johnson, James Goines, Roger Shuy, and Gail Marble who served as interviewers. Carolyn Cunningham deserves special thanks for making the house type and dwelling area ratings on which the social class of the speakers is partially based. To Wesley Richardson, recording technician at the Center, I owe thanks for his high professional competence in handling the technical aspects of the tape recording. Thanks are due to Addie Allen and Virginia Lundstrom for their help in preparing the stimulus tape for the "Word Game" section of the interview.

I wish to thank Allene Grognet and especially Frank Rice for valuable editorial help. Frank Rice, who carried out almost all the editorial work, saved the volume in countless places from unclarities and inconsistencies. I extend to Freda Ahearn my appreciation for her rapid and accurate typing of the final manuscript from a rather messy draft.

Roger Shuy deserves special thanks for encouraging me to undertake the project and, with Walt Wolfram, for helpful suggestions during the progress of the research. Several colleagues read parts of the manuscript and made useful comments. These include Walt Wolfram, Charles-James Bailey, Robert J. Di Pietro, Roger Shuy, and Marie Shiels. Responsibility for the remaining flaws in the book is mine and not theirs.

Less tangible, but no less important, is the contribution of my wife Gae, who shared with me in this research as in everything.

R.W.F.
Washington, D.C.
June 1972

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1 INTRODUCTION

1.0 General remarks. In recent years a considerable amount of interest has developed in language variability and in the educational problems connected with it. The work presented here is basically a report of linguistic research on the variable language behavior in a community of American English speakers. The unifying theme, however, is the presentation of the answer to a question of educational relevance. Educators who deal with youngsters who speak Black English are sometimes disturbed by the apparent problems connected with the tense markings of English. In particular, the absence of the concord suffix marking present tense when the subject of the sentence is third person singular (He miss the bus every day), the absence of the -ed suffix marking past tense and past participles (He miss it yesterday), and the fairly frequent absence of the tense-marked forms of to be (He always be missing it) have come in for considerable attention. These three phenomena will be analyzed in some detail, both linguistically and in connection with social factors.

1.1 The term "Black English". Any designation of the configuration of linguistic features commonly used by working-class black speakers is sure to be objectionable to someone. At the bottom of this issue is the question of whether or not it is appropriate to claim that there is a speech system, or dialect, which can be associated with speakers of a designated

race and class. Unfortunately, there is no simple answer to this question, although readers of this study will find that the presentation assumes that such an association *is* possible. There are basically two reasons why the answer cannot be simple. First, the great bulk of the grammar and phonology of the dialect is shared with the varieties of American English spoken in other communities. At most points there is no real contrast between the dialect we call Black English and the standard dialects of American English; in fact, even the nonstandard features of Black English (such as multiple negation, the pleonastic pronoun, the stop and affricated pronunciations of initial standard [θ] and [ð] are largely shared with other nonstandard dialects. But a few features, such as the use of distributive *be*, the remote time construction with *been*, and the deletion of *is*, are extremely rare or nonexistent in other dialects of American English, at least in the urban North. In the second place, those features which do in fact contrast with standard dialects are not invariant. No speaker who deletes final nasal consonants with nasalization of the preceding vowel (e.g. the pronunciation [mæ̃] for *man*) deletes it on every occasion; he will often pronounce the word *man* in its standard form [mæ̃n] as well. Since final nasal consonant deletion is also found in the speech of standard dialect speakers, the question arises, in what sense is this feature characteristic of Black English? The only reasonable answer has to do with frequency; the rule will be found to apply more often in the speech of working-class blacks than in the standard dialects. But at this point the problem of dividing the spectrum arises. Just what does the frequency have to be; is 50 percent of all potential cases sufficient, or is more than 50 percent to be required? Obviously it will not be possible to set such standards for most variable features. As a result, Black English, as the

term is used here, will refer to the speech variety which (1) includes some or all of the few features which are distinctive (such as those mentioned above) and (2) which demonstrates the appropriate frequencies of application of certain variable rules which also appear in other dialects. The notion "appropriate frequency" is necessarily vague. There will be speakers whose use of some variable rules (such as final nasal consonant deletion) will be so intermediate that it will be impossible to say definitively that their usage of this feature is characteristically Black English.

Two further clarifications about the term Black English must also be made at the outset. As is implicit in the preceding paragraph, Black English is defined largely on the basis of its syntactic and phonological structure rather than on the basis of lexicon. Ethnic terms which originate in the black community are no doubt part of Black English, but they are neither a necessary nor sufficient part of the definition of the dialect. It is possible for a speaker to use a large number of black ethnic terms in his speech but incorporate them into thoroughly standard grammar and pronunciation; in fact, this is not a rare phenomenon. On the other hand, it is possible to use Black English syntax and pronunciation while drawing from general American English vocabulary; this also is common. The ethnic terms generally follow a fairly rapid cyclical pattern in which they arise in the black community, are adopted by "hip" young whites, then by establishment liberals, and finally pass into fairly general use. The term "rap" and the expression "tell it like it is" are currently in the final stages of this cycle. At this point these terms are abandoned by the black community and others take their place. Ethnic terminology, then, is much too unstable to serve as a definitive criterion for Black English. The rules of grammar and pronunciation, by contrast, stay fairly constant for decades or longer.

The second clarification which needs to be made is that Black English, as used here, is not English used by any and all black Americans. The speech of many black Americans, especially (but not exclusively) those of the upper and middle classes, would be classified as standard English by any reasonable linguistic criteria. Many of these speakers are indistinguishable by their speech from other speakers of the standard dialect of the region in which they live. Others have a few ethnically identifiable speech characteristics, a few pronunciation features as well as intonation and vocal quality, but their syntax and the bulk of their phonology is thoroughly standard.[1] In short, it cannot be assumed that all blacks, or even all working-class blacks, speak Black English. Nor can it be assumed with complete safety that no whites speak the dialect; a few who have grown up with black peers also speak it. Black English must be defined linguistically, and not by who happens to be speaking it.

1.2 Previous studies. The current work can be viewed as a sequel to two preceding studies of black speech: Labov et al. 1968 and Wolfram 1969. Labov and his associates studied in careful detail tape-recorded samples of the speech of adolescent peer groups in New York. Their work is a gold mine of information about Black English, language variation, and insight into general linguistic theory. Wolfram's book is an equally thorough study of a socially stratified sample of black speakers in Detroit. His findings largely confirm and advance the findings by Labov and his colleagues. The current volume is based on a corpus of tape-recorded interviews with working-class black speakers in Washington, D.C. Although the data here are not so well elicited as the data on which Labov et al. is based, nor is the sample as carefully selected as Wolfram's, the study does share with its

predecessors the advantage of being based on fairly painstaking analysis of the records of actual speech.

1.3 The four research questions. Four research questions will be dealt with in the following pages.

1.3.1 The status of tense marking in Black English. As we indicated in the opening section, the first purpose will be to examine the bases for the variable absence of the -ed and verbal concord -s suffixes and of the concord forms of be in main verb phrases. Are these facts due to incomplete learning of English? Do they indicate a radically different tense structure for Black English as compared with standard English? Or are these observations to be accounted for by superficial phonological or syntactic rules? Is there a unified explanation for all three phenomena or does each require a separate explanation? All of these queries, as it turns out, can be fairly convincingly answered on the basis of our data.

1.3.2 The unity of Black English. It would be interesting to know if there are significantly differing varieties of Black English in urban areas or if the dialect is uniform with respect to geographical area. We shall capitalize on the existence of the Detroit and New York studies to determine the degree of unity found in three widely separated cities.[2]

1.3.3 Correlation with social factors. In the section dealing with the analysis of social factor influences, we shall attempt to replicate earlier findings (e.g. McDavid 1948, Labov 1966a, Levine and Crockett 1966, Labov et al. 1968, Wolfram 1969) that features of language tend to correlate well with various social factors. We will be able to test

the frequently used factors of social class, age, and sex as well as a less studied social influence—the race of the interlocutor.

1.3.4 Application of variable rule theory. Recently Labov (1969b, Labov et al. 1968) has proposed a substantial revision of generative theory in order to make it capable of accounting for degrees of variation. In the chapters that follow, we shall attempt to apply the variable rule to the Black English data.

1.4 The variable rule. Conventional linguistic analysis recognizes only three degrees of variation: obligatory presence, obligatory absence, or equipollent or random variable presence. That is, linguistic phenomena can be described as always taking place under given conditions, never taking place, or sometimes taking place. For example, the English [p] is (virtually) always aspirated in initial position. A linguistic description of English would accordingly include an obligatory rule or element: for example, a phonemic analysis would state that the aspirated allophone (always) occurs in initial position; a generative phonology of English would (always) assign the appropriate features to initial [p]. The English [p], however, is (virtually) never aspirated after [s]. Therefore, a phonological description of English would not assign the aspirated allophone or the feature for aspiration to the segment in this position. In word-final position, [p] is sometimes, but not always aspirated. A phonemic analysis would state that there are freely varying allophones, aspirated and unaspirated, of /p/ in this position; a generative description would include an optional rule assigning the aspiration feature in this environment. But no conventional analysis distinguishes among the degrees of

variation implied by "sometimes". That is, no conventional theory distinguishes between usually, moderately often, and seldom, even when these degrees of frequency are determined by linguistic, not social, factors. Suppose it is the case, for example, that final [p] in English is, for all speakers, always more often aspirated when it occurs immediately before a pause, even though it may not be aspirated in this position and may be aspirated in other positions. This linguistic fact cannot be captured by conventional linguistic models.

To take an example for which the facts have been investigated, consider the rule of final consonant cluster simplification in English.[3] According to Wolfram (1969:50-51), there is a rule in English by which the second member of a final cluster of two consonants can be deleted, provided that the second member is a stop and both members share the same voicing specification. By this rule, the final cluster in mask can be simplified, giving mas', since both [s] and [k] are voiceless. Similarly, cold can become col', because both [l] and [d] are voiced. But jump does not yield jum', because the voicing specification is different between the two members of the cluster; [m] is voiced and [p] is voiceless. Nor can the final consonant of lapse be deleted by this rule because, while both [p] and [s] are voiceless, the final consonant [s] is not a stop. These are the invariant facts about cluster simplification, and they can be captured by a conventional optional rule such as (1):[4]

(1) $\begin{bmatrix} +\text{cons} \\ -\text{cont} \\ \alpha\text{voice} \end{bmatrix} \rightarrow (\emptyset) / \begin{bmatrix} +\text{cons} \\ \alpha\text{voice} \end{bmatrix} __ \#\#$

But the above rule fails to capture some very important constraints on cluster simplification. Wolfram's work shows that two factors have a very important effect on frequency of application of the rule for all the speakers he investigated.

One factor was whether or not the cluster is followed by a consonant.[5] The other is whether or not a morpheme boundary intervenes between the members of the cluster. A morpheme boundary intervenes when the final member of a cluster is the [t] or [d] marker of the -ed suffix and the first member of the cluster is the final consonant of the verbal base. Thus phonetic [mɪst] has an intervening morpheme boundary when its spelling is missed, but not when it is spelled mist. Cluster simplification is observed sometimes whether or not a morpheme boundary intervenes and whether or not a consonant follows; thus these constraints are not mentioned in conventional optional rules like (1). But both these features exert a pervasive influence on the degree of optionality of the rule. For all speakers, the presence of a following consonant and the absence of an intervening boundary promote the frequency with which the rule operates. This is illustrated in Table 1, derived from Wolfram 1969:59-69.

Table 1. Frequencies of simplified consonant clusters in the speech of Detroit Negroes; by linguistic environment.

	Social Classes			
Environment	Upper Middle	Lower Middle	Upper Working	Lower Working
C#__##(V)	.07	.13	.24	.34
C__##(V)	.28	.43	.65	.72
C#__##C	.49	.62	.73	.76
C__##C	.79	.87	.94	.97

The data show that the frequency varies from almost complete nonapplication by the upper-middle-class speakers in the most restricted environment to almost categorical application by the working-class speakers in the most favorable environment. All

four social classes show the least simplification when neither of the favoring environments are present and the most simplification when both are present. But a further interesting fact emerges from Table 1. When one of the favoring factors is present and the other absent, it is the presence of a following consonant which favors deletion more than the absence of an intervening morpheme boundary. This pattern repeats for all groups of speakers. Therefore we conclude that it is a linguistically significant fact, not only that the following environment and the intervening boundary affect frequency of deletion, but that the two factors are hierarchically ordered, with the following consonant constraint outranking the intervening boundary constraint.

These facts were captured in the formalization proposed by Labov (1969b) by means of Greek letters. He chose Greek letters because he needed a notation that could vary over plus and minus and a notation which could show hierarchical ranking. Greek letters served both purposes since they already are used in generative phonology to vary over plus and minus and since alphabetical order could be used to express the rank order.

The above optional rule can be given informally in Labov's variable rule format as in (2), ignoring for the time being some of the invariable constraints:

(2) $C_2 \rightarrow (\emptyset) / C_1\ \beta(\#)__\#\#\ \alpha(\sim V)$

If β is plus, then the morpheme boundary is present; if it is minus, the boundary is absent. If α is plus, the absence of a vowel is present (the symbol ~ indicates "absence of"). This somewhat perverse statement simply means that something other than a vowel follows. If α is minus, the absence of a vowel is absent, i.e. a vowel is present. The rule may operate whether α or β are either plus or minus in any combination.

But if either are plus, the frequency of operation of the rule is raised; if both are plus, the raising of the frequency is cumulative; if one is plus and one is minus, the frequency is raised more if α is plus than if β is plus. This format expresses precisely the facts shown in Table 1.[6]

But there are at least two reasons why the use of Greek letters for the purpose of marking hierarchies is not possible. Although the Greek letters were chosen because they vary over plus and minus in conventional phonological theory, their function in the standard theory is more than just that. In conventional theory, a Greek letter can represent either plus or minus, but, whichever sign it has, it must have the same sign as is represented by the same letter somewhere else in the rule. This use of the Greek letter is utilized in optional rule (1), above. If we try to give the complete variable rule, including both variable and invariable constraints, the results are not entirely satisfactory, as (3) shows:

$$(3)\quad \begin{bmatrix} +\text{cons} \\ -\text{cont} \\ \alpha\text{voice} \end{bmatrix} \rightarrow (\emptyset) / \begin{bmatrix} +\text{cons} \\ \alpha\text{voice} \end{bmatrix} \beta(\#)__\#\# \alpha(\sim V)$$

Here the two notational conventions conflict somewhat. There is possible confusion about which α indicates the sign-matching function and which indicates the highest-ordered constraint. If the hierarchy of constraints includes features within a segment, which we shall eventually show to be the case for this rule, the possibility for lack of clarity is even greater. Eventually, the specifications for the preceding consonant would, using Labov's format, include the following:

$$\begin{bmatrix} \cdot \\ \cdot \\ \alpha\text{voice} \\ \varepsilon\text{son} \\ \cdot \\ \cdot \end{bmatrix}$$

At this point, the feature [αvoice] will be part of the matching function, as in the present version of the rule. But the feature [ε son] will mean that the feature [+sonorant] will be a constraint favoring deletion at the fifth level in the hierarchy. The two uses of the Greek letters could be disambiguated by requiring that the letters with the hierarchy-marking function only precede items in parentheses and that letters with the sign-matching never do. Following this convention, the specifications for the first member of the cluster would appear as:

$$\begin{bmatrix} \cdot \\ \cdot \\ \alpha\text{voice} \\ \varepsilon(\text{son}) \\ \cdot \\ \cdot \end{bmatrix}$$

The parentheses would indicate that the ε specification designates [sonorant] as a feature with a place in the hierarchy of constraints, while the lack of parentheses around [voice] would indicate that α has the sign-matching function.

But the second reason precludes entirely the possibility of using the same Greek letters for both functions. The second reason is that the Greek letters in the hierarchy-marking function do not vary over plus and minus at all. Rather they vary over the meanings present and absent. To see why this is so, we must pay attention to what would happen if the rule which we have given above were written with full rigor. If the rule is written with full rigor, the symbols # and V cannot be used. Rather, reference must be made to the features which define # and V. In the case of the boundary, three defining features are necessary, viz. [-segment, -formative boundary, +word boundary] (Chomsky and Halle 1968:66-67). The symbol V requires the features [+vocalic, -consonantal] to specify the segment, since liquids and glides count as consonants in the operation of this rule. If we attempt to retain

the use of the Greek letters, the rigorous form of the above rule would be (4):[7]

$$(4)\quad \begin{bmatrix}+\text{cons}\\ -\text{cont}\\ \alpha\text{voice}\end{bmatrix} \rightarrow (\emptyset) / \begin{bmatrix}+\text{cons}\\ \alpha\text{voice}\end{bmatrix} \beta \left(\begin{bmatrix}-\text{seg}\\ -\text{FB}\\ +\text{WB}\end{bmatrix}\right) __ \#\# \alpha\sim \left(\begin{bmatrix}-\text{cons}\\ +\text{voc}\end{bmatrix}\right)$$

The difference between the two uses of Greek letters should be clear. The α specification with the feature [voice] means that the feature can have the plus value or the minus value, but must have the same value in both consonants. The other α and the β do not indicate the plus or minus values of features at all. Rather they indicate the presence or absence of constellations of features with particular plus or minus values.

Even the case in which only a single feature specifies the constraint is amenable to this interpretation. When the [sonorant] constraint is included, it should be specified in the following manner:

$$\begin{bmatrix} \cdot \\ \cdot \\ \alpha\text{voice} \\ \iota(+\text{son}) \\ \cdot \\ \cdot \end{bmatrix}$$

This should be interpreted as meaning that the rule is favored by the presence of the feature [+sonorant]. Of course in the case of single features in a binary system, the only way that the feature [+sonorant] could fail to be present would be if the feature [-sonorant] were present. But the more inclusive interpretation is necessary to take care of the (many) cases in which the presence or absence of constellations of features require reference.

In Fasold 1970, I proposed that Labov's Greek letters be replaced by integers. This notation system turned out to be unwieldy since considerations we will not go into here required

that the highest-ranked feature be given the highest integer. This meant that the highest-ranked constraint in a given rule can only be identified if one knows how many constraints are operative. I now propose that the lower-case Greek letters be replaced by upper-case Greek letters.[8] This allows the hierarchy-marking function to be distinguished from the sign-matching function, allows us to take advantage of alphabetical order to indicate hierarchical levels, and preserves a sense of continuity with Labov's original proposal. The one difficulty with this proposal is that most of the upper-case Greek letters are not distinct from upper-case Latin letters, and this could lead to confusion when the same Latin letters might be used to indicate elements (e.g. N used as a capital nu might be confused with N meaning Noun). This difficulty can be overcome by the judicious use of spacing, in which the letters used to mark hierarchical rank are not separated from their referents, but category symbols are always separated by at least one space from the nearest preceding or following item in the string. With the adoption of this convention, the appropriate form of the variable consonant cluster deletion rule is (5):

$$(5)\quad \begin{bmatrix} +\text{cons} \\ -\text{cont} \\ \alpha\text{voice} \end{bmatrix} \rightarrow (\emptyset) / \begin{bmatrix} +\text{cons} \\ \alpha\text{voice} \end{bmatrix} \; B \; \left(\begin{bmatrix} -\text{seg} \\ -\text{FB} \\ +\text{WB} \end{bmatrix} \right) __ \#\# \; A\sim \; \left(\begin{bmatrix} -\text{cons} \\ +\text{voc} \end{bmatrix} \right)$$

The upper-case A and B, like the lower-case α and β in (2), (3) and (4), predict the consequences shown in Table 1.

Variable rules, like any other rules in a grammar, are to be taken as accounting for a speaker's linguistic competence. Such claims about variable rules have, unfortunately, been the subject of much misunderstanding. A number of linguists who are interested in linguistic variability have taken this claim to mean that speakers somehow store the exact percentage rates at which they are permitted to activate rules in

certain environments. This view is expressed by Ronald Butters (1971:313) in the following quotation, but similar interpretations can be found in unpublished work by David DeCamp and Derek Bickerton:

> The claim, in other words, is that speakers know--consciously or unconsciously--such percentages, and know that they must perform such deletions [as are called for by Labov's copula deletion rule] a certain percentage of the time under certain specified circumstances.

To carry this interpretation of the claim that variable rules reflect competence even further, one could say that not only do speakers know the percentages involved, but that they also know the precise percentages at which they need to apply a given variable rule, so that their speech output, when pooled with the output of other speakers of their age, sex, social class, and ethnic membership, will give the aggregate percentage of application called for by the rule. Referring to Wolfram's data as presented in Table 1, this would mean that every upper-middle-class black speaker in Detroit is competent to apply the consonant cluster simplification rule, just in case the two members of the cluster are separated by a morpheme boundary and the following word does not begin with a consonant, just often enough so that when his output together with the output of all other upper-middle-class black Detroit speakers is tabulated, the result will be an aggregate deletion rate of 7 percent. To claim that speakers have such competence is every bit as ridiculous as it sounds. It is therefore not surprising that no one makes such a claim.

The claim that variable rules reflect linguistic competence is actually much closer to the claim that any rule in a grammar reflects competence. Consider, for example, the case of a speaker who never deletes the final member of a consonant cluster before a vowel, although he may delete such consonants in other environments (such speakers no doubt exist). This

fact would be captured by a conventional optional rule of the following form:

$$(6)\quad \begin{bmatrix} +\text{cons} \\ -\text{cont} \\ \alpha\text{voice} \end{bmatrix} \rightarrow (\emptyset) \;/\; \begin{bmatrix} +\text{cons} \\ \alpha\text{voice} \end{bmatrix} __ \#\#(C)$$

By specifying that the cluster which is subject to simplification by this rule can be followed, if by anything, only by a consonant, we are ascribing to the speaker the competence to apply the rule when a vowel follows ultimately less often than in other environments, i.e. never. By allowing variable constraints, however, we ascribe to the speaker the competence to apply a variable rule less often in some environments than in others, even if not ultimately less often. Variable rule analysis, in other words, differs from analyses with conventional optional rules in that it treats zero application, not as anything unique, but as the limiting case of "less frequent application". By the same token, categorical application--the obligatory rules of conventional generative grammar--is the limiting case of "most frequent application".[9]

What the variable rule claims as the competence of an upper-middle-class black speaker in Detroit is the knowledge that the consonant cluster simplification rule is least frequently applied in the environment at the top of Table 1, somewhat more freely applied in the next environment, still more frequently applied in the next, and most frequently applied in the last environment. No special status is claimed for the numbers in the first column of Table 1. They merely reflect the fact that in one instance of careful observation of the speech behavior of a sample of upper-middle-class black residents of Detroit they actually did demonstrate the competence claimed by the variable cluster simplification rule. They could equally well have demonstrated such competence with different percentages.

In his classic article on the variable rule, Labov (1969b) did make a slightly stronger claim for the variable rule than will be made here. His use of the k_o constant, which is the seat of social factors such as age, class, etc., amounts to a claim that it is part of a speaker's linguistic competence that he knows not only the relative frequencies based on linguistic environments, but that, for example, an upper-middle-class speaker knows that he is to apply the cluster simplification rule in each environment less often than a person of lower social status in that environment. It is clear that such knowledge is part of a speaker's knowledge of language use--his communicative competence--but perhaps not part of his linguistic competence. My reasons for reserve about this stronger claim are based at present more on personal preference than on rational arguments. In any event, even Labov's stronger claim does not mean that a speaker stores knowledge about specific percentages, only that he has competence in relative frequency of application of certain variable rules based on his awareness of his status in his community.

1.5 The determination of social class. Another of the four aims of this study is to test the correlation of linguistic and social factors. As we have already stated, the correlations to be investigated are the age, sex, and social class of the speaker and the race of the interlocutor. The age and sex of the speaker and the race of the interlocutor are easy to determine through observation or direct questioning. The social class of the speaker is much more difficult to determine and had to be determined indirectly through the use of a sociological model. The model used was that of Warner et al. 1960.[10] The goal of Warner's method is to provide precisely the kind of information needed for the correlation studies based on social class. His method is designed to enable the

investigator, among other things, "to find within reasonable limits the correct class position of any given individual or family in the community" (Warner et al. 1960:35). Warner et al. describe two methods for accomplishing this goal. One is called Evaluated Participation, which is the more direct method, but the one more difficult to apply. It is based on the propositions:

> ... that those who interact in the social system of a community evaluate the participation of those around them, that the place where an individual participates is evaluated, and that the members of the community are explicitly or implicitly aware of the ranking and translate their evaluations of such social participation into social-class ratings that can be communicated to the investigator. (Warner et al. 1960:35)

The Evaluated Participation method involves interviewing a fairly large number of people in a given community and extracting their judgments on the class standing of other individuals and families in the community. The research of Warner and his associates shows that there is a large degree of agreement within a community on the standing of the individuals and families in that community. Therefore, social class structure would seem to be a valid part of the social psychology of the community.

The second method, the one used in this study, is called the Index of Status Characteristics. It is easier to apply, but is less direct. The Index of Status Characteristics is a measure of socioeconomic factors associated with individuals and families, but was found by Warner and his associates to correlate well with social class position.

1.5.1 The Index of Status Characteristics (I.S.C.). Four status characteristics are used in computing I.S.C. These are occupation, source of income, house type, and dwelling area. Each of these characteristics is subdivided on a seven-point

scale, with the highest status associated with the lowest numbers. The four seven-point scales are reproduced in Tables 2-5. For a more complete description, see Warner et al. 1960, chapter 9.

Table 2. Occupation scale according to Warner et al. 1960.

	Occupation
Rating	Sample Occupations
1	Lawyers, engineers, high-school superintendents, other professionals with post-graduate training, regional managers of large enterprises, Certified Public Accountants
2	High-school teachers, nurses, assistant managers of large businesses, accountants, real estate and insurance salesmen
3	Social workers, elementary school teachers, minor business officials, bank clerks, secretaries to executives, contractors
4	Stenographers, sales people in department stores, factory foremen, self-employed plumbers, dry cleaners
5	Telephone operators, hardware salesmen, radio repairmen, barbers, policemen, cooks in restaurants
6	Carpenters' assistants, night watchmen, truck drivers, waitresses, gas station attendants
7	Heavy labor, janitors, odd-job men

Warner and his associates also investigated education and amount of income as factors but later abandoned them when they proved unnecessary. Of the four sets of characteristics, all proved eminently workable in connection with data obtained from the Washington speakers except one--source of income. Here the rating scale proved irrelevant or problematical at four points. The first two categories on the scale--income derived from inherited or earned wealth--were irrelevant because none of

Table 3. Source of income scale according to Warner et al. 1960.

Source of Income	
Rating	Description
1	Inherited wealth
2	Earned wealth
3	Profits and fees
4	Salary (paid on a monthly or yearly basis)
5	Wages (determined by an hourly rate)
6	Private relief
7	Public relief and nonrespectable income

Table 4. House type scale according to Warner et al. 1960.

House Type	
Rating	Description
1	Excellent houses--single-family, large lawns, ostentatious
2	Very good houses--slightly smaller than those rated 1
3	Good houses--only slightly larger than utility demands
4	Average houses--one-and-one-half to two-story wood-frame and brick houses
5	Fair houses--houses in poorer condition than those rated 4, smaller houses in excellent condition
6	Poor houses--badly run down, but could be repaired
7	Very poor houses--irrepairably deteriorated, halls and yards badly littered

Table 5. Dwelling area scale according to Warner et al. 1960.

	Dwelling Area
Rating	Description
1	Very high--area has a very high reputation, has the best houses with wide clean streets and many trees
2	High--felt to be superior, but a little below the top; distinct from those rated 1 mainly by reputation
3	Above average--area of nice, but not pretentious houses
4	Average--areas of workingmen's homes, which are small and unpretentious, but well cared for
5	Below average--undesirable because of location near factories or railroads; has more run-down houses than above rating
6	Low-run-down, semi-slum areas with houses set close together
7	Very low-slums with the lowest reputation because of poor condition of dwellings and low status of inhabitants

the individuals interviewed, either in the working-class sample or in the upper-class control sample,[11] derived their income from either of these two sources. The last two categories also caused problems. There was no one in the sample who derived income from private relief, nor was it generally possible to determine whether an individual derived his income from nonrespectable sources. As a result, there were gaps at three points in the scale and only partial usability with a fourth. Furthermore, there was not always enough information to distinguish between income from wages and income from salaries. Fortunately, Warner and his associates found that any three of the characteristics could be used with almost as good results as all four. When they correlated the

results of the Evaluative Participation method with the Index of Status Characteristics results, they found a multiple correlation coefficient of .972, with a standard error of estimate of 1.02. When only occupation, house type, and dwelling area were used, the correlation coefficient with Evaluative Participation was .964, with a standard error of estimate of 1.16 (Warner et al. 1960:174). The use of these three characteristics proved only slightly less satisfactory than the use of all four.

Computing I.S.C. is done in three steps. *First*, each speaker is assigned a rating for each of three characteristics used. Next, these three numbers are each multiplied by a weighting factor. The occupation rating is multiplied by five, the house type rating by four, and the dwelling area rating by three (Warner et al. 1960:124). The three weighted ratings are then totaled to give the I.S.C. for that individual. These totals were used to determine social class by using Warner's social class equivalence table, reproduced here as Table 6.

The equivalencies in Table 6 were modified slightly in their application to the Washington data. These modifications will be described in our discussion of procedures.

1.5.2 Comparisons with earlier studies. Warner's I.S.C. method is quite similar to those used in two earlier social stratification studies, Labov 1966a and Wolfram 1969. Labov had the advantage of having available a population which had already been stratified by sociologists for another purpose (Labov 1966a:211). Like the method used here, Labov's social classes were set up on the basis of weighted rankings of status characteristics. These included four-level scales of occupation, education, and amount of income.

Table 6. Social-class equivalents for I.S.C. ratings for Old Americans, Jonesville; from Warner et al. 1960.

Weighted Total of Ratings	Social-Class Equivalents
12-17	Upper class
18-22	Upper class probably, with some possibility of upper-middle class
23-24	Indeterminate: either upper or upper-middle class
25-33	Upper-middle class
34-37	Indeterminate: either upper-middle or lower-middle class
38-50	Lower-middle class
51-53	Indeterminate: either lower-middle or upper-lower class
54-62	Upper-lower class
63-66	Indeterminate: either upper-lower or lower-lower class
67-69	Lower-lower class probably, with some possibility of upper-lower class
70-84	Lower-lower class

Wolfram's determination of social class is likewise based on a weighted ranking of status characteristics. Adapting a method developed by Hollingshead and Redlich (1958), Wolfram's population was divided into social classes on the basis of seven-level scales of occupation, education, and residency. The occupation scale is virtually identical to the one in Warner et al. 1960 (Wolfram 1969:33). The residency scale is roughly equivalent to the dwelling area characteristic in Warner's system. Warner's dwelling area scale has the advantage of being based on judgments about the reputation of neighborhoods, rather than, as is true of Wolfram's system,

on the actual statistics of neighborhoods based on census data on number of rooms per unit, percent of houses in sound condition with all plumbing facilities in working order, and income of residents. Presumably it is the reputation of a neighborhood which has a more direct bearing on the determination of the status of its residents than the sheer physical condition of the housing. In the Washington study, the vast majority of the judgments on house type and dwelling area were made by a black researcher who was a native of the city. While it may seem intuitively more satisfactory to utilize education rather than house type if residency is already being used, we will rely on the results of Warner and his associates, which indicate the reverse.

1.5.3 Advantages and disadvantages of I.S.C. There are a number of disadvantages in the selection of Warner's method of social class determination. In the first place, the method is fairly old. It is quite possible that in the some twenty years which have intervened between the original publication of Warner's book, changes have taken place in the factors which Americans recognize as contributing to status. A few of the occupational rankings may be misplaced or largely irrelevant. It is possible that house type or neighborhood are either more or less important as indicators of social status. By and large, however, the application of the method to the population seemed intuitively satisfying. In the second place, it would have been preferable to have validated the method for Washington, D.C., rather than to rely so heavily on Warner's results for another community. The resources for doing so, however, were not available. Perhaps a more serious objection is that, by the admission of Warner et al. (1960:129), "... it may be found ... that more accurate social-class prediction can be obtained by constructing separate conversion tables for

Old Americans and for ethnic groups." In spite of their long history in this country, Warner's designation of Old Americans does not include black Americans. By applying his method to a black population it is possible that the wrong yardstick is being used. There are two possible answers to this objection. First, Warner and his associates believe that "it is probably true that no very serious error will be introduced by treating ethnic individuals as Old Americans for the purpose of social-class prediction" (Warner et al. 1960: 129). Second, since the present sample includes only blacks, any distortion would probably effect all the individuals in the sample equally. The correlations which we find between linguistic features and social factors may or may not be correlations in terms of class status within the black community. But the correlations are more likely to be valid on the basis of the status the speakers have by general American standards.

On the other hand, there are a number of advantages to the use of this method. First, the method is very easy to apply and requires only data which are easy to obtain. Second, there is the confidence that it has correlated with another method of determining social status in at least one American community. Nor is this the first time Warner's method has been proposed as the basis for sociolinguistic research: Sapon found it a promising way to determine social class in a sociolinguistic study in Mexico City (Sapon 1953). In the last analysis, the method draws considerable validation from the correlation with independently derived linguistic data which we will be able to show.

1.6 Procedures

1.6.1 Data gathering. The data on which this study is based were collected in Washington, D.C. over a period of about a year and a half between the beginning of 1968 and late summer

1969. The original aim of the study was to obtain a judgment sample divided evenly among four social classes (upper and lower middle and upper and lower working), between the two sexes, and among three age groups (10-12-year-old children, 13-19-year-old adolescents and adults 21 or older). It was hoped that five speakers could be placed in each of the twenty-four cells uniquely determined by these criteria. Of these five, two would be randomly selected, giving an array of speakers virtually identical to that used by Wolfram (1969:14-16). All speakers, in addition to fitting into the above framework, were required to have lived in the District of Columbia for at least half their lives. The search for people who would be willing to grant a linguistic interview and who would meet the various age, class, and sex qualifications was carried on in a rather loose fashion. Most were introduced to the project by individuals and organizations whose help was solicited for this purpose. By the end of the summer of 1969, about ninety-five individuals had been interviewed.

By that time it became apparent that the original objective would not be reached. Speakers could only be assigned to a social class after the interview was over. As a result, some categories had far more than five speakers; others had fewer, or none at all. A number of interviews were unusable because the speakers had not lived in the city long enough. Others were not used because their social class could not be predicted accurately enough within the framework of Warner's Index of Status Characteristics. At the same time, a backlash against giving information to be used in esoteric studies was developing in the black community. This in turn focussed our attention on ethical questions about the propriety of soliciting information from speakers for purposes whose ultimate value to those speakers could not be assumed to be great.

Since it appeared decreasingly likely that the kind of sample which was originally sought would be obtained, the interviewing was discontinued and the focus changed somewhat. Attention was turned to the forty-seven speakers who were clearly members of the lowest two classes by Warner's criteria (those with an I.S.C. of fifty-four or higher). This sample was unevenly divided by sex, age, and sub-class (upper versus lower working class). The exact distribution can be seen in the list of speakers in Appendix B. The unevenness of the distribution may well render the conclusions concerning the effect of social factors less conclusive. That the defective sample did not preclude reasonable results, however, is apparent from the fact that in large measure it constitutes a replication of the earlier studies, especially Wolfram's.

The correlations between linguistic factors and the social factors of age, sex, and race of interviewer are fairly straightforward. Two measurements of the effect of social class were made which require some explanation. For each linguistic feature investigated, comparisons were made between the upper and lower working classes. In these measurements, data from speakers whose I.S.C. values placed them indeterminately between the two subclasses were not tabulated. In addition, for each linguistic feature a comparison was made between the adolescents and adults of the working-class sample, with a control sample of upper-class adolescents and adults. This small sample included one adult and one adolescent of each sex whose I.S.C. value was 26 or lower.[12] Only the most general conclusions could be drawn from this comparison, but it proved instructive to note which features were totally absent in the speech of the upper-class speakers while present in the speech of the working-class speakers, and those which were variably present in the speech of both groups. Children were not included in these comparisons because there was only

one upper-class child who was interviewed (and he was the brother of the adolescent girl) and because children can be expected to be the least sensitive to the social effects of language.

Each speaker was interviewed by one of eight interviewers: four men and four women, three black and five white (one of the white women interviewers interviewed only one speaker). The interviews were conducted in a variety of circumstances, all of them rather formal. Some were interviewed in the field, either in their own homes or in an institutional building such as a church. Others were recorded in a recording studio at the Center for Applied Linguistics. The studio-recorded interviews may have caused some speakers to use a more formal style than they would have in a field-recorded interview, but such an effect was not obvious. The studio-recorded interviews were, of course, of considerably higher technical quality than the field-recorded interviews. Because of the varying quality of the recordings, it is legitimate to question whether or not the necessary phonetic contrasts can be reliably heard. To determine this, intertranscriber analyses between the author and the research assistant who was responsible for the extraction of the data on verb concord -s and intratranscriber analyses based on two listenings by the author to words ending in final consonant clusters were carried out. In both cases, agreement on the presence or absence of the relevant segments was greater than 90 percent, indicating a satisfactory level of reliability. Each speaker was asked the same questions: those in the questionnaire in Appendix A. Most of the following analysis is based on the speakers' responses to the questions in Part I, designed to elicit extended narrative. Part II, Word Games, was designed to elicit specific forms which could not be assumed to turn up in narrative style. Little use has been made of this

material, except for the Auxiliary Probe responses, which were exceedingly valuable in the analysis of invariant *be*. The readings of the extended passage were used in an attempt to show style stratification for the features which proved to be phonological. As we shall see, one particular sentence in the extended reading led to an insight into the analysis of the absence of the present tense verb concord suffix. No linguistic use was made of the tasks involving the reading of numbers, days of the week, and standard sentences. These tasks had the function during the interview of helping the interviewer discover those who could not read well orally before they were given the extended reading passage. If a person showed a lack of reading facility in any of these tasks, he was not asked to read the extended passage. No use was made of the word lists and minimal pairs in this study, except to test the phonetic accuracy of the data extraction procedures.

1.6.2 *Typescripting*. Between the recording of the interview and the actual extraction of the relevant data, an intermediate procedure was followed. Most of the recorded interviews were typescripted by typists with no particular background in linguistics. The typescripters were instructed to transcribe what the speaker said as they heard it, using standard orthography. They were not told to edit the speech in any way. It was recognized, of course, that many of the interesting linguistic features would be lost by this procedure. It could not be expected of a typescripter that she would accurately transcribe the presence and absence of the verbal concord suffix. It was expected that many examples of distributive *be* would be transcribed as *'ll be* or *'d be* and vice versa. No consistency could be expected in the transcription of the *-ed* suffix. The typescripts were useful (though not essential) to the actual extraction process, in that the extractor could run the tape

directly to that part of the interview where a relevant feature was indicated by the typescript. The extractor would have to listen for himself to the actual feature to determine whether the sentence in the typescript was actually an example of the relevant feature and which of the variant usages was present. For example, if the typescript contained the sentence She make candy, it was necessary for a competent extractor to listen to the sentence, first to determine if it was an actual case of a present tense verb (e.g. that the speaker had not actually said She'd make candy or She made candy) and second to determine that the -s suffix was actually absent. The typescript would save the extractor from having to listen to those portions of the interview which did not contain present tense verbs with third person singular subjects.

1.6.3 Data extraction. The next step was to extract the data from the interviews. For the reading and Word Game data, forms were developed with blanks in the appropriate places to record each speaker's performance. This was not possible in extracting narrative data, of course, because a speaker could say almost anything in answer to the general questions. Instead, each example of a feature which was under study was typed on a separate 3-by-5-inch index card. If there was more than one example of the kind of form being extracted, the sentence was typed as many times as there were forms. For example, if a speaker were to say He goes to school every day and makes trouble, with two examples of verb concord -s, the sentence would be typed on two separate cards--one for goes and one for makes. Each card was then coded along the edges for various categories which were thought to be of interest in connection with the feature in question. An inch of space along the edge of each card was designated as a "field" which would be coded for a specific kind of information. For example,

the first inch in the upper left-hand corner on the cards for verb concord -s was designated as the field for presence or absence. If the sentence on the card contained an example of a present tense verb with a third person singular subject, but did not have the -s suffix, the field was marked by coloring it with a red felt-tip marker. If the suffix was present in the verb on the card, the field was colored with a black felt-tip marker. If it could not be determined if the suffix was present or not, the field was left white. When it came time for analysis, then, it was not necessary to "eyeball search" each card for examples of present and absent suffixes; it was only necessary to pull out those cards which were colored red and black, respectively, in the appropriate field.[13] This system had the effect of encouraging the investigation of a number of hypotheses, since checking a new hypothesis did not require a time-consuming and mind-numbing eyeball search of hundreds of cards. Even if the cards had not been coded for precisely the kind of information required by a hypothesis which was thought of after the data had been extracted, it was usually the case that they were coded for something which would cut down the number of cards which would have to be actually read. For example, in the analysis of verb concord -s it became necessary to examine all cases of the verb do (or does), although the cards had not been coded for the presence of this verb. However, the cards were coded for verb bases ending in a vowel. In the search for examples of do or does, it was thus only necessary to pull out the examples of verb bases ending in a vowel and search them for the desired cases, instead of searching all the present tense verb cards. The fact that hypotheses come to mind after the data are extracted shows why it is very desirable to extract data by a method which makes all relevant information recoverable.[14] Figure 1 schematically illustrates a sample card.

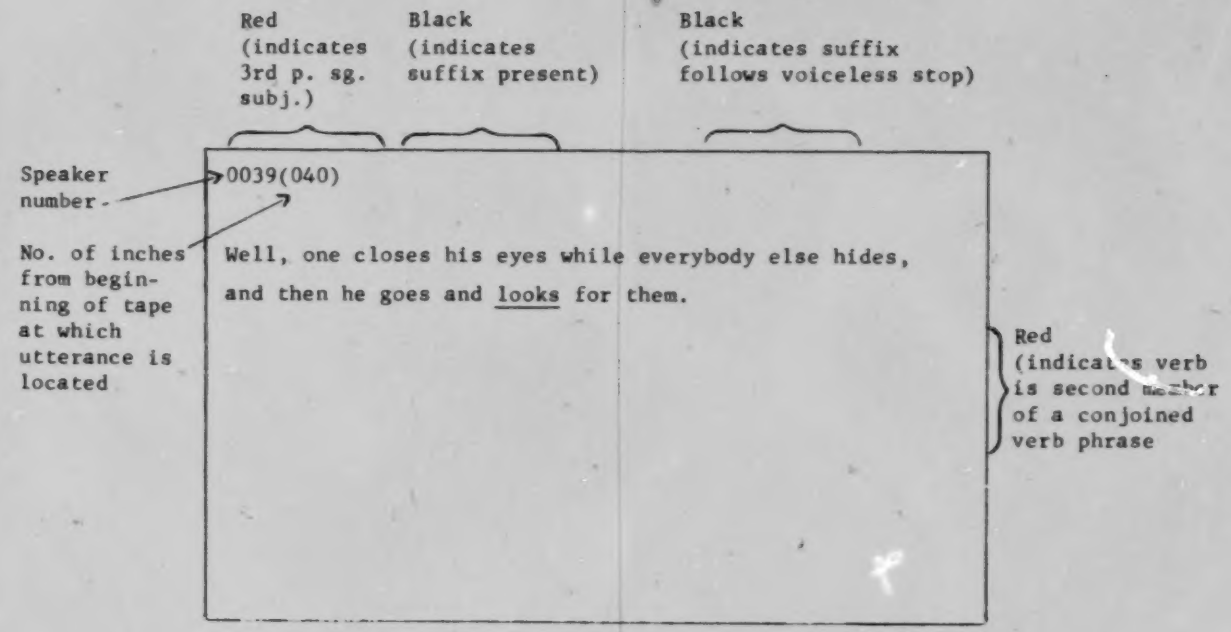


Figure 1. Sample data extraction card.

The actual work of extraction was done by the author and a research assistant, Shannon Clarkson. For most of the tapes, Miss Clarkson extracted the data on verb concord -s, on irregular past tense and past participial verbs, and on invariant be (including be in construction with will and would). The author extracted all the data on regular and semiregular (e.g. tell and keep) verbs potentially suffixed with -ed, rechecked all instances of be which Miss Clarkson had extracted as following a contracted form of will and would (she was virtually always accurate), and extracted all data for the final dozen or so interviews. Miss Clarkson also extracted all the Word Game data except for the last several interviews, and the author extracted the data from the extended reading passage. As a rule of thumb, it was decided to extract for each speaker twenty examples of present tense verbs with third person singular subjects, twenty examples of irregular past tense and past participial forms, twenty examples of regular and semiregular verbs potentially suffixed with -ed,[15] and all examples of invariant be. In practice, usually more or fewer than twenty examples of a given category were extracted. Some interviews did not contain twenty of the desired examples, and sometimes a form which had been omitted by the typescripter turned up as an example of the feature being extracted. In these cases, the extra form would be added. Sometimes more than twenty examples of a feature were extracted because the twentieth example came in the middle of a passage which had several more examples of the same kind, and it seemed not to make sense to stop in the middle of the passage. The number twenty served mainly as a loose control to make the longer interviews manageable and to keep the more loquacious speakers from being grossly overrepresented.

1.7 The use of statistics. Considerable use was made in this study of one of the simpler statistical tests, the chi-square test for independence of variables. This test was used not only in the studies of the correlation between linguistic and social factors but also in the linguistic analysis as well. The use of statistics in a linguistic study calls for some comment. Because so much of language structure is pervasively regular, most linguists have assumed that variation in language which is not virtually always predicted by linguistic factors is not really part of linguistics, outside of noting, by means of optional elements or rules, those points at which such variation exists. In our discussion of the variable rule, we attempted to argue that this view of linguistics is overly restrictive and that a great many linguistically relevant facts will be overlooked if such a view is adhered to. In short, variability is linguistically important, and relative levels of frequency must be carefully observed.

Once variability is admitted as a legitimate subject for linguistic analysis, it immediately becomes apparent that methods will be needed to distinguish truly random variability from conditioned variability. It would seem reasonable to turn to the techniques of statistical analysis, which have been designed for just such purposes. But surprisingly, we find no examples of statistical tests having been applied to any of the data presented in Labov's work, or in the work of Wolfram (1969). In Labov's work on contraction and deletion, he claims that the great regularity observed in the syntactic constraints on contraction and deletion of *is* makes statistics superfluous:

> The fact that this pattern repeats regularly in six different groups, in each style, indicates how pervasive and regular such variable constraints are. We are not dealing here with effects which are so erratic or marginal that statistical tests are required to determine whether or not they might have been produced by chance. (Labov 1969b:731)

Within Labov's statement here there are really two arguments. The first is that the regularity involved is so obvious that inspection of the data is all that is required to reveal it. The implication of this argument is that if one were actually to go to the trouble of testing the data statistically, a high level of significance would be the result. However, mere inspection of Labov's tables for any one group by one who is not experienced in such arrays of data does not reveal this.[16]

The second argument is based on the fact that Labov has data from six different populations and has two styles for each. If each group in each style shows the same tendencies, even if the data for any one group were not significant, one would still be justified in claiming the reality of such regularities. The standard elementary statistical tests are not designed to give information on the significance of regularities in tendencies in several comparable populations. This same argument also applies to Wolfram's work. By analyzing four social classes separately, he has, in effect, four populations. For a feature like final consonant cluster simplification, Wolfram (1969:57-74) finds that the frequency of occurrence of simplified clusters is influenced by the phonological environment in exactly the same way, independently for each social group. The frequency levels may not be statistically significant for each group individually, but when the same pattern is repeated four times, the impression is almost unavoidable that statistical tests of significance are not relevant.[17]

There are two points of view, then, on why statistical tests should not be used in linguistic analysis. From the point of view of traditional linguistics, only presence, absence, and variability are interesting categories; degree of variability is taken not to be a proper subject for linguistic analysis. We have already discussed our reasons for rejecting this view. The other view, taken by Labov explicitly and by

Wolfram implicitly, is that the regularities observed when degrees of variability are taken seriously are so profound as to make statistical tests irrelevant, either because inspection of the data makes it obvious that an important discovery has been made, or because statistically nonsignificant tendencies are repeated for a number of populations and in a variety of styles.[18] In spite of these arguments, which we find very convincing, statistical tests will be presented in this work for three reasons. First, due to the imbalance of our sample, we are basically treating it as one population instead of trying to subdivide it on the basis of social class. For this reason, inferences based on the repetition of tendencies in separate populations are not open to us. Second, if it is true that the regularities discovered by this methodology are as profound as has been claimed, it ought to be true that the application of statistical tests will show them to be highly significant. This in turn may help convince those who may not be impressed by arguments like Labov's. Finally, we wish to make statements about social influences and semantics which do not show quite the degree of regularity shown in other areas to be discussed. As an example, we will test the influence of the race of the interviewer on the frequency of certain nonstandard forms. We will also test the frequency of occurrence of a certain class of adverbs with distributive _be_. The use of the chi-square test in these latter cases will prove especially useful.

NOTES

1. William A. Stewart (personal communication) refers to this phenomenon as "dialect influenced standard English" and compares it to the dialect influenced standard German which is common in Switzerland.

2. The title of this volume gives a clue to the answer to this

question. We shall be able to document an impressive degree of unity between our results and those of Wolfram and Labov and his associates. So impressive is this unity that the fact that the study was done in Washington, D.C. was not considered relevant enough for the city to be named in the title. It seems likely that the same findings would turn up in studies of working-class black speech in almost any northern American city.

3. This rule will be discussed in detail, and presented in a different form, in a later chapter.

4. This is a rule of English, not a strictly nonstandard rule. It is found to operate, with slightly different frequencies and constraints, in dialects of English at all social levels.

5. We shall later present evidence that the preferred formulation of this constraint is whether or not the cluster is followed by a vowel.

6. Note that the variable rule does not predict the actual figures in Table 1, only the relative frequencies.

7. Full rigor would, of course, demand that we specify ## also by means of features.

8. This convention was suggested to me by William K. Riley.

9. These limiting cases are of special interest in the study of language change as the beginning and end points of changes. For a discussion of the role of variable rules in language change, see C-J.N. Bailey Ms.

10. All references to Warner et al. in this study are to the 1960 Harper Torchbook edition. The book was first published in 1949 by Science Research Associates, Inc., Chicago.

11. These two samples will be described later.

12. For all but the adult woman, these I.S.C. ratings corresponded to the upper-class ratings given by Warner et al. 1960. The adult woman would not be classified as upper class in Warner's system, but was the highest status adult woman we interviewed.

13. An edge-punched keysort system which would allow all the cards coded for a given piece of information to drop out

of the pack instantly when the keysorter is inserted would have been more convenient than having to physically pull out each card coded with a particular color. However, commercially available edge-punched cards are rather expensive and are difficult to improvise.

14. It may appear that it would be impossible to read a color code which is marked only along the edge of a card which is less than a millimeter thick. However, using colors as different as red, black, and white, it proved very easy to sort cards on the basis of edge-color codes.

15. The decision to take only twenty examples of all regular and semiregular verbs per informant had an inhibiting effect on the analysis, as we shall point out.

16. When the chi-square test was applied to two of the tables in Labov 1969b, however, an extremely high level of statistical significance was found.

17. The case becomes even stronger when one compares Labov's and Wolfram's data on a feature like postvocalic [r] and finds the same social and linguistic factors affecting the presence and absence of [r] in Negro communities separated by several hundred miles.

18. Wolfram has since said that "the relative importance of statistics for sociolinguistic study is an area which needs careful research and explication. We must know in what areas statistical calculations are expedient, what areas they are questionable and what areas they are inapplicable for the linguist doing research in social dialects." (Wolfram 1970a:42).

2 PAST TENSE

2.1 Irregular verbs. To establish the status of past tense as an underlying category of Black English, it is of great importance to analyze the behavior of irregular verbs. Although most verbs form their past tense and past participles by the suffixation of -ed, a number of the most common ones take irregular past markings, the most common of which is a change in the vowel from present to past tense, e.g. give-gave, fall-fell.[1] A number of verbs which end in [d] in the present tense undergo devoicing to [t] in the past, e.g. send-sent, build-built. Some have only a difference in the final consonant to mark past tense as different from present, e.g. make-made, has-had; these may be the only examples of this type. A further kind of irregularity involves verbs which differ both in the vowel and in the final consonant or consonant cluster from present form to past form, e.g. catch-caught, buy-bought. Still other verbs have the same form whether the use is past or present, e.g. beat-beat, shed-shed. Finally, two verbs have suppletive forms for the past tense (go-went; am/is/are-was/were).[2] All of these irregular forms were used in the speech of the Washington working-class speakers with a high degree of consistency.

Twenty examples of irregular verbs were collected for each speaker, yielding a total of 833 occurrences. Of these 833, only 24 were classifiable as nonstandard. Eleven were partially or fully regularized by the addition of the -ed suffix, e.g.

Then he ranned off; I seed this picture. These 11 cannot be used as evidence that past tense is not distinct in the dialect, since the tense distinction was made, though in a nonstandard way. Of the remaining 13, 12 were identical with the present tense form of the verb, e.g.:

> He hold his hand out and made him fell. (64)
>
> I looked in the box and it was a bicycle and I know it was mine. (14)

The remaining example involved the verb sing. The context was past, but it could not be determined from the tape recording whether the speaker had said sing or singed. If we grant that the indeterminate sing example represents the absence of tense making, this leaves a total of only 13 of the 833 instances (1.6 percent) which could be cited as evidence that tense is not a distinct category.

These 13 examples are used by seven different speakers. All of the speakers, including these seven, used other irregular verbs with their standard past forms many more times than they used such verbs with no such marking. The conclusion to which we are forced on the basis of this evidence is that the past tense distinction is an inherent part of the grammar of all of the speakers in the sample.[3]

For four of the seven speakers, it is not even possible to state that past tense is unmarked even for certain individual verbs. These four speakers used at least one irregular verb in unmarked form in one part of the interview but with the appropriate past tense indicator in another part of the same interview. For these speakers, the standard and unmarked past forms of such verbs are in some type of variable distribution. For the remaining verbs, in which there were no instances of the standard form in the same interview, it still cannot be asserted that the standard form is unknown, since the standard form may not happen to have been used more than

once within the confines of the twenty examples selected for analysis.

Only one verb appeared invariantly without past tense making from more than one speaker. Three different speakers used know instead of knew. But this cannot be taken as a feature of the working-class Black English of Washington, since of the fourteen speakers who used the verb know in the past tense, eleven used knew appropriately. The strongest statement which can be made about the non-use of tense marking in irregular verbs is that for a few speakers the verb know is like the verb put in standard English; it takes no overt past tense marker.[4] However, even for these speakers this does not mean that there is a lack of the past tense category, since all of them use the past forms of other irregular verbs in a completely standard way.

If past tense were not part of the dialect, it would be expected that where a form of do is called for, e.g. in questions, in negatives, under emphasis, or in certain elliptical sentences, the present tense form would be found. (In most analyses of English, tense is considered to be affixed to auxiliary do if the tense morpheme is separated from the main verb in one of these four ways.) If past tense did not exist, the result would be that auxiliary did would never appear, or at best would fluctuate with do or does in past contexts. But in the data from the Washington working-class speakers, did appears under these conditions in appropriate contexts without exception, e.g.:

with emphasis:

Honest to goodness, I really did learn. (37)
Nobody never did show up for practice. (85)

with not:

I didn't know they was that serious. (41)
No, he didn't do nothing. (61)

in questions:

What do you mean, how did I play? (08)
Did you read the article in the Post?(26)

in elliptical sentences:

Norman, he didn't get hurt too bad, but Joe Rossi did. (06)
She wanted to get caught and she did. (39)

Examples of auxiliary did showed up in association with both regular and irregular verbs; there were no counterexamples. This evidence is no doubt the strongest that the category past tense is part of the grammar of the dialect.

Two speakers used double pasts with auxiliary did (out of eighty-three examples). These were:

Well, I did thought if I were fishing by myself and I fell in I would have drowned. (14)
I didn't did anything to you. (41)

Speaker 41 used did as an auxiliary in the standard way elsewhere in the interview. Speaker 14 did not, however. Even so, his usage cannot be taken as evidence of incompetence with past tense, since he used the irregular past form fell in its standard form in the very same sentence.

2.2 Absence of [d]

2.2.1 General remarks. When the -ed suffix is affixed to a regular verb ending with a vowel, it is pronounced as [d]. Such verbs in Black English are sometimes pronounced without this [d]. This is true regardless of the function of the suffix. Some examples are:

Derived adjective: They were showing a colored [kʰəlɨ] preacher. (74)

Past tense: He applied [əpʰla] for a job. (67)

Past participle: Then we was discovered [tʂkəvɨ]. (37)

Wolfram (1969:95-108) and Labov (Labov et al. 1968:129-131) have shown that there is a phonological process in Black English

by which syllable-final [d] can be deleted when it occurs after a vowel.[6] We assume that the same explanation applies to the observed absence of -ed after verbs ending in vowels in Washington black working-class speech as well. There seems to be a number of reasons for making this assumption. First, a phonological solution has proved valid for two geographically separate black communities, suggesting that what was described may be general for all Black English. Second, while data for [d] absence in single morphemes, as in bid, for example, were not tabulated from our Washington data, such [d] absence was informally observed by the investigator. In addition, we shall be able to show that [d]-deletion in our Washington sample is sensitive to phonological constraints; in large measure the same ones observed by Wolfram.

2.2.2 Data extraction.[7] In the data extraction procedure we made no attempt to eliminate what previous studies had suggested were phonetically difficult environments for the observation of [d]. Thus, sentences like They tried to get her, in which [d] is followed by a homorganic stop ([t]), and We hadn't studied the heart, in which [d] is followed by what is often a homorganic stop (the first consonant of the), were extracted whenever they occurred as one of the twenty arbitrarily selected sentences. This was done in the hope that a way would be found by which the presence or absence of final [d] could be determined at least indirectly. It was discovered that the presence of [d] could often be unequivocally determined. Sometimes the first half of the stop closure was clearly voiced and the second half clearly aspirated, as in She tried to [tʰradtʰi] learn the girls to do needlework (73). In other cases there was no aspiration, but the voicing did not carry through the duration of the stop closure, as in I was too scared to [skɛ̰ʱdti] feel the pain (13). In still other cases

the voicing continued throughout the stop closure, but the closure was clearly of more than one segment duration, as in I prayed to [$p^hr\varepsilon^{\underline{d}}d{\cdot}\acute{i}$] die (37). Occasionally, the presence of the -ed suffix was clear because it was marked by the characteristic glottalized alveolar stop resulting from the application of the Black English final obstruent devoicing rule to [d], as in They carried the [$k^h\varepsilon r\acute{i}^{?}td\acute{i}$] guns back (83).

The absence of [d], on the other hand, could very rarely be determined with any confidence. When the [d] was only one segment in duration or flapped, it was impossible to determine whether it represented the fusion of [d] from -ed and the [d] or [t] beginning the following word, or the intervocalic voicing or flapping of the [d] or [t] of the following word alone. For example, the phonetic sequence [$t^hra<\check{d}\acute{i}$] could represent try to as well as tried to, in the appropriately allegro style.

The result was that, when the next word began with an alveolar stop, final [d] could be judged present with reasonable confidence in many cases, but could never be judged as demonstrably absent. Since a present/absent decision could not be made in this environment, all such examples were excluded from the main tabulations. Nevertheless, these doubtful cases proved crucial for the style stratification study of this feature, as we shall see (chapter 6).

2.2.3 Phonological constraints. The working-class speakers used verbs ending in vowels a total of 121 times in situations in which the -ed suffix was to be expected. Of these 121 examples, the expected [d] was absent 33 times, or 27.3 percent. It was almost immediately obvious that the phonetic environment which followed the verb had an important effect on whether the [d] would be present or not. Three types of environment were compared: vowel, consonant, and pause (whether terminal or due to a hesitation). When the next word began with a vowel, [d]

was absent in 13 percent of the observed cases. When the next word began with a consonant, 38.6 percent of the potential instances of [d] were absent, and 39.1 percent were absent when a pause followed. It is clear that the effect of a consonant or a pause is identical, and that when a word beginning with a vowel follows, [d] absence is greatly inhibited. On the basis of these percentages, we divided the data into two parts: (1) examples in which the verb with the -ed suffix was followed by a word beginning with a vowel, and (2) examples in which the verb was followed by a consonant or pause. The inhibiting effect of the following vowel was statistically significant (see Table 7).

Table 7. Effect of following environment on the presence of [d] representing the -ed suffix.

	__##V	__##(C)
Present	47	41
Absent	7	26
Percent absent	13.0	38.8

N = 121

$X^2 = 10.07$, $p < .01$

The next phonological factor which seemed to have an effect on [d]-deletion was whether the preceding vowel was accented or not. It seemed that [d] was less often deleted in words like showed or applied than in words like married. Two examples in our sample were not tabulated with respect to accent. These were two instances of the word carried, both pronounced monosyllabically:

she carried herself [$k^h\varepsilon^r$ɗəsε^lf] (11)

she carried her [$k^h\varepsilon$:ɗɨ] mother some goody (63)

It is possible that the word carry is to be considered mono-

syllabic for some Black English speakers. If so, these two examples should be counted with preceding stressed vowels. It is possible, on the other hand, that the word is disyllabic with stress on the first syllable, as in standard English, but that phonological processes can reduce it to one syllable. If these rules apply after [d]-deletion, these two examples should be tabulated with preceding unstressed vowels. If they apply first, so that carry is a stressed monosyllable when [d]-deletion applies, then it should again be counted with preceding stressed vowels. Since these questions are unanswered, it was decided to eliminate these examples from the tabulation. The results of the analysis of the remaining 119 verbs is given in Table 8.

Table 8. Effect of the accent of the preceding vowel on the presence of [d] representing the -ed suffix.

	V́	V̆
Present	63	23
Absent	15	18
Percent absent	19.0	43.9

N = 119

$X^2 = 8.16$, $p < .01$

2.2.4 A syntactic constraint. The third constraint which affected the presence of [d] representing -ed was a grammatical one. If the -ed was a marker of past tense, it was significantly less likely to be deleted than if it had another function, such as past participle marker or marker of a derived adjective. Using all 121 examples, the results of the test for this constraint is given in Table 9.

Table 9. Effect of grammatical function on the presence of [d] representing the -ed suffix.

	Past Tense	Other Functions
Present	64	24
Absent	13	20
Percent absent	16.9	45.5

N = 121

$X^2 = 11.52$, $p < .001$

2.2.5 Hierarchy of the constraints. It remains to determine the hierarchy of constraints so that the correct [d]-deletion rule can be written. When real data are examined, it is difficult to find rules whose frequencies show the hierarchy of the constraints in the optimum way. There are two reasons for this. First, and most simply, the variable constraints on many rules are empirically not well ordered beyond the first two constraints.[7] In the second place, when a body of data is subdivided by various combinations of constraints, each subdivision may contain very few examples. In the Washington data, the three significant constraints lead to the establishment of eight subdivisions: the combination of three items taken three at a time. The 119 examples (the two examples of carried were removed for reasons discussed above) were not evenly distributed among the eight categories. For example, there were only six cases of verbs in which the [d] in question was preceded by an accented vowel, the verb was followed by a vowel, and the -ed did not have a past tense marking function. There were only ten examples of verbs in which [d] was preceded by an unaccented vowel, the verb was followed by a word beginning with a vowel, and -ed had a past tense function.

With several such small categories, it is not surprising that the data appear not to conform to the principle of hierarchical ordering.

To avoid the difficulty posed by these sparsely populated categories, the data were tabulated with the constraints compared pair-wise. First, the effect of accent was compared with the effect of a following word beginning with a vowel, while ignoring the grammatical function of -ed. Then the effect of accent was compared with the effect of the grammatical function of -ed, while ignoring the effect of the following phonetic environment. Finally, the effect of a following word beginning with a vowel was compared with the effect of the grammatical function of -ed, while ignoring accent. The results of these three tabulations are given in Table 10. The results of this tabulation show that both the grammatical function of -ed and the following phonetic environment outrank accent as constraints on [d]-deletion, and that the following phonetic environment outranks the grammatical function. These facts suggest that the following phonetic environment is the first constraint in the hierarchy, that the grammatical function of -ed is second, and that accent is third. The rule for the deletion of [d] representing -ed can be written as follows:

$$\begin{bmatrix} +\text{cons} \\ -\text{voc} \\ +\text{ant} \\ -\text{cor} \\ +\text{voi} \end{bmatrix} \rightarrow (\emptyset) / \Gamma([\text{-acc}]) \; \# \left[\frac{\quad}{B\sim([+\text{PAST}])}\right] \#\# \; A\sim \left(\begin{bmatrix} -\text{cons} \\ +\text{voc} \end{bmatrix}\right)$$

Since this is the first variable rule to be presented, in the interests of clarity we will explain how it is to be interpreted. If, for a given derivation, any of these Greek letters represents presence of the feature, the operation of the rule (i.e. the deletion of [d]) is favored. If the indicated feature is absent, the operation of the rule is inhibited.

Table 10. Pair-wise comparison of the constraints on the [d]-deletion rule.

Constraint	[d]-absence		
	No. Abs.	Total	Percent Abs.
V́__/__##V	4	37	10.8
Ṽ__/__##V	3	15	20.0
V́__/__##~V	11	41	26.8
Ṽ__/__##~V	15	26	57.7

(a) Effect of accent compared with effect of following environment.

Constraint	[d]-absence		
	No. Abs.	Total	Percent Abs.
V́__/[+Past]	10	59	17.0
Ṽ__/[+Past]	3	16	18.8
V́__/~[+Past]	5	18	27.8
Ṽ__/~[+Past]	15	26	57.7

(b) Effect of accent compared with effect of grammatical function of -ed.

Constraint	[d]-absence		
	No. Abs.	Total	Percent Abs.
__##V/[+Past]	5	40	12.5
__##V/~[+Past]	2	12	16.7
__##~V/[+Past]	8	35	22.9
__##~V/~[+Past]	18	32	56.3

(c) Effect of following phonetic environment compared with effect of grammatical function of -ed.

Specifically, if F in the above rule represents presence, an unaccented vowel preceding [d] is present; if it represents absence, the vowel is accented. If B in the rule represents presence, the -ed suffix involved is not the past tense marker; if B represents absence, -ed does mark past tense. If A represents presence, the verb involved is followed by a pause or a word beginning with a consonant. In cases in which A represents absence, it is followed by a word beginning with a vowel. When A represents presence, the frequency of [d]-deletion will be higher than if the B feature is present and the A feature is absent. When B represents presence, the frequency is higher than if the F feature is present and the B feature is absent.

2.2.6 Comparison with the Detroit data. There is a striking degree of convergence between these results and those of Wolfram's (1969:95-109) study of [d]-deletion in black speech in Detroit, although he took under consideration only non-grammatical [d]. Wolfram found that the frequency of [d] absence was lower when the word was followed by a word beginning with a vowel, and that it also was lower when an accented vowel preceded the [d].[8] He gives no data from which the hierarchical ordering of the two constraints can be inferred, but his cryptic handling of the accent constraint compared to his detailed treatment of the effect of the following phonetic environment suggests that he considers the latter to be the more significant constraint.

Even more striking is the degree of convergence concerning the effect of a pause in the following phonetic environment. In the Washington data, the effect of a consonant and a pause on the frequency of [d]-deletion was virtually identical. The situation for the Detroit data was presumably the same, since Wolfram (1969:98) came to the same conclusion:

> Elsewhere ... the distinction between a following consonantal and non-consonantal environment affects the frequency of particular realizations. In Fig. 24 there is a similar type of environmental distinction, obtained by separating the following environment on the basis of vocalic versus non-vocalic environment. The vocalic environment includes any potential d immediately followed by a vowel; the non-vocalic environment includes any potential d when followed by a consonant or pause of some type (either a terminal or non-terminal pause).

This degree of convergence points to two interesting conclusions. First, the [d]-deletion rule is an established part of Black English phonology on a nationwide level. Second, the rule for deleting grammatical [d] is clearly the same as that which deletes final [d] in single morphemes.[9]

2.2.7 Deletion and devoicing. Linguists who have analyzed final [d]-deletion in Black English have combined [d]-deletion with the analysis of other phenomena in the dialect. As we pointed out earlier (cf. note 5), Labov (Labov et al. 1968: 129-131) allows postvocalic [d] to be deleted by a "final t,d deletion rule" which deletes postvocalic [t] as well as postconsonantal [t] and [d]. Wolfram separates postvocalic and postconsonantal [d]-deletion, and separates the deletion of [d] from the deletion of [t] after vowels, but treats the deletion of [d] with the devoicing of [d] in postvocalic syllable-final position. He gives no linguistic evidence that the two phenomena are related, except for the fact that the vocalic versus nonvocalic following environments seem to constrain devoicing as they constrain deletion. Wolfram's basic reason for treating the two phenomena together seems to be more sociolinguistic than strictly linguistic. A basic concept in his work is the notion of the linguistic variable. Following Labov's earlier work,[10] Wolfram defines the linguistic variable as "an abstraction [which] is realized in actual

speech behavior by variants; that is, individual items which are members of a class of variants constituting the variable" (Wolfram 1969:42). Thus, the linguistic variable realized by variants is somewhat analagous to phonemes realized by allophones or morphemes realized by allomorphs. The linguistic variable, however, is not the same thing as a phoneme or a morpheme. First, the variants of a given variable can transcend phoneme boundaries. Second, the variants are considered to be controlled to a degree by social considerations, not as "freely" varying. Finally, a variable does not have to be a phonological unit; it can equally well be a grammatical feature.

Wolfram is led by his model to consider deletion (the ∅ variant), devoicing (the t variant), and the voiced pronunciation (the d variant) to be the three variants of the variable, d. In an attempt to account for the correlation between stigmatization and social class in the use of final postvocalic [d], this approach is quite defensible, since it is useful to know that the deletion and devoicing in this position are socially stigmatized. For our purposes, however, it is important to discover whether or not there are linguistic reasons that will lead to the conclusion that deletion and devoicing are related in some way. There are two reasonable hypotheses. Conceivably, deletion could apply to the output of devoicing.[11] The other hypothesis is that devoicing and deletion function independently of each other.

One indication that the two operations are not entirely parallel is the fact that the devoicing of [d] is part of a general final obstruent devoicing rule.[12] Not only can both mood and mooed be pronounced [mu:^{u}t] or [mu:^{u}ʔt], but leg is sometimes [lɛ:k] or [lɛ:ʔk], rob often is heard as [ra:p] or [ra:ʔp], and edge can be [ɛ:č] or [ɛ:ʔč]. Underlying voiced spirants are similarly devoiced, but at reduced frequency levels.[13] On the other hand, [d] is the only voiced obstruent which can be deleted by regular phonological rules.[14]

This obviously does not preclude the possibility that [d] could be devoiced by the general obstruent devoicing rule and later deleted by a rule which applies only to voiceless alveolar stops. The reasonableness of this analysis depends on the answer to two questions. First, does the output of the devoicing rule applied to [d] yield a segment which merges with [t]. Second, does deletion apply to final postvocalic [d] and [t] equivalently. Although there are no tabulations to prove it, it seems clear, on the basis of many hours of listening to Black English speech by a number of linguists, that final [d] is much more frequently deleted than is final postvocalic [t]. Even if the correct analysis calls for a single rule to delete both segments, it will have to be a variable rule which predicts that the frequency of deletion of original [d] is higher than the frequency of deletion of original [t]. This means that original [t] and devoiced original [d] must be distinct at the point of application of the deletion rule. This in turn implies that the answer to the first question above must be negative.

Unfortunately, the question about the merger of [t] and [d] cannot be answered unequivocally. Wolfram (1969:95) was able to discriminate three kinds of phonetically devoiced segments which he classified under the t variant -- [t˺], [ʔ], and [ʔt˺]. These same segments were observed in the Washington data. It is clear that [t˺] is a possible manifestation of underlying [t]. For many speakers of English, including speakers of Black English, [ʔ] is also possible as a reflex of underlying [t]. But [ʔt], (Wolfram's [ʔt˺]) is noticeably distinct from any variety of [t]. At the same time, [ʔt] is the most common output of the devoicing rule as applied to [d]. The best answer that can be given is that devoiced [d] is sometimes indistinguishable from [t], but often (perhaps usually) it is not. Apparently, there are some three stages of

devoicing: elimination of glottal friction but retention of glottal stricture, which begins before the oral closure (yielding [ˀt]), followed by either elimination of the oral closure (yielding [ˀ]) or by the coarticulation of glottal stricture and oral closure (yielding [t̚]). In either of the latter two cases, a segment indistinguishable from [t] results, otherwise original [t] and original [d] are distinct. Since the two kinds of segments must be distinct at the point of deletion, it is clear that deletion of [d] can apply to the output of the first stage of devoicing, but cannot apply to the output of either of the subsequent steps. In other words, a derivation sequence [d] → [ˀt] → ∅ is possible, but a sequence [d] → [ˀt] → $\left\{\begin{matrix}[t\tilde{\ }]\\ [ˀ]\end{matrix}\right\}$ → ∅ is not. In spite of its apparent reasonableness, a stepwise gradation of voicing to devoicing to total deletion is not in accord with the facts. We conclude that devoicing and deletion are linguistically separate phenomena.

2.2.8 Constraints on devoicing. Although devoicing of final [d] is ancillary to the main purpose of this volume, it is instructive to examine it in some detail. There was considerable convergence between the analyses of the Detroit and Washington data concerning the constraints on devoicing. Wolfram considered four kinds of constraints: (1) whether or not a word beginning with a vowel followed the potential [d]; (2) if a vowel did not follow, whether a consonant or a pause followed; (3) if a consonant followed, whether or not the consonant was voiced; and (4) whether or not an unstressed vowel preceded potential [d]. He found that the presence of a word beginning with a vowel sharply inhibited devoicing, just as it inhibited deletion, and also found that a pause following potential [d] clearly favored devoicing, compared to cases in

which a consonant followed. There was a slight increase in the frequency of the devoicing of [d] when the next word began with a voiceless consonant, compared to cases in which the next word began with a voiced consonant. The differences in frequency were very small, and for one social class, voiced consonants seemed to favor [d]-devoicing.

When the Washington data were examined, the same constraints were found to be effective. The major difference is that the influence of voicing in consonants appears to be greater in the Washington data, but there are not many examples. Table 11 displays the results. The figures in (a) were highly significant, those in (b) significant at only the .05 level of confidence, and there were too few examples in (c) to allow a valid statistical test. Wolfram appears to take voicing as a constraint which operates weakly only within consonantal following environments. For the Washington data, however, if the data in Table 11 are rearranged as in Table 12, a pattern emerges which suggests that voicing is more general as a constraint than consonantality or vocalicity. Voiced consonants and vowels seem to inhibit devoicing, while voiceless consonants and pause tend to favor devoicing. Since all vowels are voiced--and pauses are necessarily voiceless--it would appear reasonable to extract the presence or absence of voicing as the overriding constraint.

The fourth factor investigated by Wolfram was the presence or absence of accent on the vowel preceding potential [d]. Tabulating only those examples in which potential [d] was not followed by a vowel, Wolfram found that an unaccented preceding vowel had a slight tendency to favor devoicing.[15] A replication of this tabulation in the Washington data revealed that 70 percent of the instances of [d] after an unaccented vowel were devoiced, while 51.7 percent of the instances after an accented vowel were devoiced. These results proved not to be

Table 11. The effect of three following environments on the frequency of devoicing of [d] representing the -ed suffix.

	__##V	__##~V
Voiceless	2	22
Voiced	46	18
Percent voiceless	4.2	55.0

N = 88

$X^2 = 28.42$, $p < .001$

(a) Effect of a following vowel compared to the absence of a following vowel.

	__##	__##C
Voiceless	11	11
Voiced	2	16
Percent voiceless	84.6	40.7

N = 40

$X^2 = 5.17$, $p < .05$

(b) Effect of a following pause compared to a following consonant.

	__##C_o	__##C_v
Voiceless	8	3
Voiced	2	14
Percent voiceless	80.0	17.6

N = 27

(c) Effect of a following voiceless consonant compared to a following voiced consonant.

significant statistically. However, the results in the two studies tended to converge; absence of accent had a slightly favorable effect on devoicing in both sets of data. The Washington results cannot be taken too seriously since only thirty-nine examples met the qualifying condition, i.e. that they not be followed by a word beginning with a vowel.

Table 12. The effect of four following phonetic environments on the devoicing of [d] representing the -ed suffix.

	_##	_##C_o	_##C_v	_##V
Voiceless	11	8	3	2
Voiced	2	2	14	46

The same conclusions which can be drawn concerning the deletion rule can be drawn about the devoicing rule. The devoicing rule applies to final [d] whether or not it represents a grammatical suffix. The rule for devoicing [d] (and probably other voiced obstruents as well) seems furthermore to be a general rule of Black English phonology, and not limited to certain geographical areas.

2.3 Cluster simplification

2.3.1 General remarks. When -ed is added to a verb base ending in a consonant other than [d] or [t], the result is a cluster of two consonants, the second of which is the [d] or [t] representing -ed. If the final consonant of the base is voiced, -ed is phonetically [d]; if voiceless, it is [t]. The Black English treatment of word-final consonant clusters, of which these -ed clusters are one type, has been extensively studied by Wolfram (1969) and by Labov and his associates (Labov et al. 1968). It was found in each of these studies

that the removal of [t] or [d] representing -ed is only one case of a general phonological process by which a word-final consonant can be removed under certain conditions. Furthermore, the two linguists, working independently with data from two widely separated cities, came to many of the same conclusions about the details of this phonological phenomenon. The Washington data also converged in a remarkable way with most of the major conclusions of the two earlier studies.

2.3.2 Procedures. Before we examine the details of Washington working-class speech with respect to final consonant cluster simplification, it is necessary to describe the procedures used in extracting and tabulating the data. As mentioned earlier, twenty examples of verbs potentially carrying the -ed suffix were extracted for each speaker, and each example was transcribed phonetically. The data under consideration here include all verb bases ending in consonantal segments except [t], [d] and [r]. Bases ending in [t] and [d] take the suffix form [ɨd], and no cluster is involved. According to Wolfram (1969:131 note 14), the effect of [r] is the same as that of a vowel. In our preliminary tabulations, we analyzed twenty-three examples of verb bases ending in [r] and taking the -ed suffix. In all of these verbs a constricted [r] was clearly pronounced. Of these twenty-three examples of [rd] clusters, seven (or 30.4 percent) were simplified. This figure is very close to the rate of deletion for [d] after vowels, which was 27.3 percent. The examples are few, but the results do tend to confirm Wolfram's observation. For this reason, and because [r] in its constricted pronunciation as the first member of a consonant cluster is so rare, we decided to eliminate potential [rd] clusters from further tabulations.

Fifty-five other examples were eliminated because it could not be determined whether or not the final stop was

present. In by far the majority of these cases a phonetic [t] or [d] was present, but it was uncertain whether these segments represented -ed or the initial [t] or [d] of the following word. The following three examples illustrate the problem.

> ... kept us in and talked to [tɔkt^{h}ɨ] us, you know. (12)
>
> I used to get knocked down [nakda<^{U}n] pretty near every day. (26)
>
> I liked "The [la^{i}ˈkdɨ] Good, The Bad and The Ugly". (07)

The rest were indeterminate because of special factors in the speaker's tempo, or in the quality of the tape recording.

Twenty-eight examples of named were eliminated when it was discovered that final [d] was present in only one case. This raises the question whether or not the word even has an underlying -ed suffix for these speakers. It is conceivable that name in phrases like a boy name Larry is not related to the verb to name.[16]

There remained 382 clear cases of verb bases ending in nonalveolar consonants in which the -ed suffix was expected.

2.3.3 The analyses of Wolfram and Labov. As profound as their agreements are, Wolfram and Labov do not agree completely on the details of the cluster simplification phenomenon. For Labov, there is a rule which removes final [t] or [d] and only [t] or [d], and this rule removes these consonants whether they are the second member of a consonant cluster or not. That is, his "t,d deletion rule" deletes the [t] of sit as well as sift, and the [d] of sad as well as sand. In addition, Labov proposes a separate rule to delete the second members of [st], [sp], and [sk] clusters. For Wolfram, the second member of a word-final consonant cluster can be absent if and only if it meets two conditions: (1) the second member is a nonstrident stop (e.g. not an affricate),[17] and (2) the two members agree

in voicing. Thus, Wolfram sees the absence of the final stops of [sp], [st], and [sk] clusters as part of the same phenomenon as the absence of [t] and [d] when they are the second members of other clusters; the absence of final [d] after a vowel is part of a completely different phenomenon.[18] Wolfram makes no allowance for the absence of [t] after vowels and explicitly excludes clusters involving [t] and [d] in which both members of the cluster do not share the voicing specification. There are no final clusters in English in which the first member is a voiceless consonant and the second member is [d]. The specific clusters which Wolfram's specifications exclude and Labov's specifications include are [lt] and [nt], in which a voiceless stop ([t]) follows a voiced consonant ([l] or [n]) (Wolfram 1969:51). Table 13 summarizes the difference between Labov's "t,d deletion rule" and Wolfram's consonant cluster simplification phenomenon.

The question of the merits of the two analyses can be answered rather easily on empirical grounds for any given body of data. The answers to the following questions would resolve the uncertainties at the four main points of disagreement.

Question:	"Yes" answer:
1. Does deletion apply to [d] after vowels under the same general conditions as to [d] after consonants?	Labov
2. Does deletion apply to [t] after vowels or voiced consonants under the same general conditions as to [t] after voiceless consonants?	Labov
3. Does deletion apply to [p], [t], and [k] after [s] under the same general conditions as to other stops which agree in voicing with the preceding consonant?	Wolfram
4. Does deletion apply to clusters whose members agree in voicing and which do not begin with [s] and/or end with [t] or [d]	Wolfram

under the same general conditions as it does to clusters whose members agree in voicing and do begin with [s] and/or end in [t] or [d]?

Table 13. Comparison of the treatment of final consonant cluster simplification by Wolfram and Labov.

Case	Wolfram	Labov
$Vd\#\#$	Separate rule	t,d deletion
$Vt\#\#$	No rule	t,d deletion
$C_V t\#\#$	No rule	t,d deletion
$\left\{ \begin{matrix} \not{s}_o t\#\# \\ C_V d\#\# \end{matrix} \right\}$	CC simplification	t,d deletion
$s\left(\begin{matrix} t \\ p \\ k \end{matrix} \right)\#\#$	CC simplification	separate rule
$\not{s}_{\alpha v} \not{t}_{\alpha v} \#\#$	CC simplification	no rule

Symbols:

V = vowel
C = consonant
$\not{s}$ = any consonant except [s]
$\not{t}$ = any consonant except [t] or [d]
o = voiceless
v = voiced
αv ... αv = agree in voicing

After presenting the data from the Washington working-class speakers, we shall address ourselves to these questions to try to determine to what extent each of these analyses is correct. It should be noted that our discussion of -ed absence will include data from the area of intersection of the two analyses, except that Labov's data includes the absence of [d] after vowels, which we have treated separately, and our analysis includes [s#t] clusters, which Labov treats separately.

2.3.4 Bailey's analysis. Charles-James Bailey (personal communication) has proposed a third way of dealing with the problem of final cluster deletion. His analysis came to my attention too late to be empirically checked in the Washington working-class data, but will be summarized here.

Bailey's contention is that in the examples involving final apical stops under consideration here, deletion can occur when the stop clusters with the preceding consonant. This apparently contradicts Wolfram's claim about "mixed-voiced" clusters and Labov's claim about unclustered [d]- and [t]-deletion. There is basic agreement between Bailey and Wolfram that final unclustered [d] is variably deletable, while final unclustered [t] is not systematically deletable. There is a great deal of agreement between Bailey and Wolfram about the facts of the simplification of //nt// and lateral+//t// sequences, the only examples of Wolfram's "mixed-voiced" clusters. But these sequences, Bailey observes, are either not consonant clusters or are not "mixed-voiced". Final underlying //nt// clusters (as well as //mp// and //nk// clusters) undergo the deletion of the nasal consonant with nasalization of the preceding vowel, if the preceding vowel is in the same syllable as the nasal. Thus, the correct phonetic transcription for sent, for example, is ['sɛ̃ᵊt].[19] Deletion does not take place in this case for exactly the same reason that it does not take place in set ['sɛᵊt], viz. [t] is not a member of a consonant cluster. The same argument does not apply to [nd] clusters, since in these cases consonantal [n] is preserved, and clustered [d] is deletable in the regular way. Similarly, in many cases, final lateral+//t// sequences are not consonant clusters, since the lateral is not a consonant but the satellite of a syllable nucleus.[20] The correct transcription for built, then, is ['bɪˡ:t], with [ˡ] the symbol for the satellite lateral. The [t] does not delete

in built for the same reason it does not delete in bout ['bæ^{o}t] (and for the same reason it does not delete in dent), that is, it is not a member of a consonant cluster but rather follows a nucleus plus satellite. The [d] of build ['bɪ^{ɪ}:d] can be deleted, since [d] is deletable after vocalic nuclei.

However, in words like bolt the lateral is consonantal, but is phonologically treated as unclustered with [t] nonetheless. But the consonantal l in bolt is phonetically voiceless, so even Wolfram's "mixed-voiced" restriction would also erroneously predict [t]-deletion in bolt, at least if cluster simplification applies sufficiently late in the derivation. The phenomenon of voiceless lateral consonants being phonologically treated as unclustered with following stops is not limited to the behavior of [l̥t] sequences. The Northern States pronunciation of golden ['go:^{ɪ}dn̩] involves the nonconsonantal pronunciation of the lateral and allows the cluster of [d] and the syllabic nasal. The Southern States pronunciation of golden ['go^{ʊ}ldən] has a consonantal voiced lateral which clusters with [d] and prevents the development of a syllabic nasal from [ən]. The same phenomenon can be seen by contrasting London ['lʌndən] with mountain ['mæ̃^{o}n̩]. But the Southern States pronunciation of molten involves a consonantal but voiceless lateral and also the syllabic nasal (['mo^{ʊ}l̥tn̩]). The [tn̩] sequence is permitted even after a consonantal lateral, but only if it is voiceless.[21] Whatever solution is correct for molten will doubtless apply to the somewhat anomalous failure of [t] to delete in bolt.

Just as it is possible to test Labov's analysis against Wolfram's (as we shall attempt to do in answering the above questions), Bailey's analysis is also testable with careful attention to the relevant empirical data. One possible test depends on the correct ordering of the rule for consonant cluster simplification with respect to the rules which delete nasal consonants before syllable-final voiceless obstruents and which

produce satellite laterals out of underlying consonantal laterals (Bailey would agree that there are underlying sequences of consonants in both cases). If evidence can be found that the cluster simplification applies before the rules affecting liquids and nasals, then arguments based on phonetic outputs would lose their relevance. I know of no evidence that this is the correct ordering, but Labov (1969a) has shown that cluster simplification is not an extremely late rule. It must apply at least before inserting the vowel which produces the [ɨz] variant of the plural suffix from underlying [z]. The evidence which is now available, however, is fairly neatly handled by assuming that cluster simplification operates on late phonetic sequences.

The other possible test involves a prediction inherent in Bailey's analysis. According to Bailey, built is like bit (or bout) with respect to [t]-deletion. Therefore empirical observations should show that the frequency of [t] absence in bit and bout is comparable to the frequency of [t] absence in built (presumably a very low frequency). This prediction is largely borne out in Shiels (1972) where final //lt// clusters of all types were found to be virtually always intact in the speech of adolescent Black English speakers in New York City. Analogously, the absence of [t] in sent should show up at frequency levels comparable to the deletion of [t] in set. Shiels' study does not bear out this prediction, however, since she found that [t] is deletable after underlying //n// (whether or not the consonant is preserved in the phonetic output) at frequency levels markedly higher than the deletion after vowels, although it is deleted markedly less often than is [d] after [n].

Returning to laterals, Bailey's analysis predicts that [d]-deletion after satellite laterals (as in build, or for that matter, after nuclear laterals as in pulled ['phɨ:d] and

gambled ['gæmbɨd]), would occur at frequencies comparable to deletion of [d] after vowels, not after consonants. Labov and Wolfram have both shown, and we have been able to verify, that final [d] is noticeably less frequently deletable after vowels than after consonants. The data in the present study are capable of being used to test this prediction, but were unfortunately not extracted in such a way as to make such a test feasible.

2.3.5 Constraints on cluster simplification. A major constraint on consonant cluster simplification which was found by both Labov and Wolfram was that bimorphemic clusters, i.e. clusters which have a morpheme boundary between members, were less often simplified than monomorphemic clusters. Thus, the final [t] in missed [mɨs#t##] is less likely to be absent than the final [t] of mist [mɨst##]. Furthermore, Wolfram found that the presence of a morpheme boundary was the second most important constraint. Wolfram made no attempt to hierarchize the constraints he found, but his data on the critical cross products show that the morpheme boundary was second to the absence of a following consonant in the promotion of cluster simplification. Labov, however, found that social status and style tended to have an effect on the ordering of the two constraints. For the adolescents and preadolescents, peer-group membership had a crucial effect. For each of the peer groups he investigated (except, inexplicably, the Jets), the more important constraint was the absence of a vowel after the final cluster. For one group of "lames" (i.e. nonmembers of peer groups), as well as for the Jets, the two factors were of equivalent importance. For another group of "lames", the morpheme boundary was actually the more important constraint. Labov also investigated the relative positions of the two constraints for adult speakers. In casual style, both constraints

were of equivalent effect for the middle-class adults. In seven of eight groups of working-class speakers in casual style, the absence of a following vowel was the more important factor; for the lower-working-class adults who grew up in the North, the two factors were equivalent. But in careful style, all adult groups but one upgraded the importance of the intervening morpheme boundary. For those groups of speakers for whom the two factors were equivalent, the morpheme boundary constraint became the more important one in careful style. For those groups of speakers for whom the absence of a following vowel was the most important constraint in casual style, the two became equivalent in careful style. For one group of adults, the upper-working-class speakers raised in the North, the two constraints actually switched positions: in casual style, the morpheme boundary was of secondary importance; in careful style, it was of primary importance. The exceptional group was the upper-working-class speakers who grew up in the South; for them, the absence of a following vowel was the most important constraint in both styles. The generalization seems to be that in moving away from vernacular Black English--either through a shift in social status or a shift to a more formal style--the intervening morpheme boundary takes on greater importance, whereas within the vernacular, the absence of a following vowel seems to be the more important constraint, as Wolfram found to be the case for all social classes in his data; cf. the figures in Table 14, culled from charts in Wolfram (1969:62,68).[22]

For the vernacular, at least, both Wolfram and Labov found that the major constraint affecting cluster simplification had to do with the environment following the potential cluster. It is clear that if the word following a cluster begins with a vowel, fewer clusters will be simplified than if a consonant follows. What is not so clear is what the effect of a pause is.

Wolfram claims (1969:61):

> The crucial distinction is between environments in which a consonant follows immediately and those in which it does not. Thus, we may distinguish between non-consonantal, which includes a vowel (whether it be part of a lexical item beginning with a vowel or a vocalic hesitation segment), pause, or terminal juncture, and a consonantal environment.

Pause, Wolfram is saying, affects consonant cluster simplification in the same way as does a following vowel. Labov comes to the opposite conclusion (Labov et al. 1968:136):

> The most important effect, of course, is that a consonant precede the -t,d--that is, that we are dealing with a cluster. The second or β effect is the influence of a following vowel: anything which is not a vowel favors the rule.

Table 14. Cross product percentages of two constraints on final consonant cluster simplification in Detroit Negro speech.

	C#C##C	CC##(V)
Upper-middle-class	49.2	22.6
Lower-middle-class	61.7	43.3
Upper-working-class	72.5	65.4
Lower-working-class	76.0	72.1

When only final clusters are under consideration, the major inhibiting effect is a following vowel. Anything which is not a vowel--including pause--favors the rule deleting the final member of the cluster. In other words, pause affects the rule in the same way that a consonant does. Neither scholar, however, presents the evidence on which he bases his conclusion.

Tabulations of the 382 clear cases of potential bimorphemic clusters in the Washington data tended to converge with Labov's conclusions about the status of pause rather than with Wolfram's. Table 15 shows a comparison of following environments and their effect on deletion.

Table 15. Comparison of the effect of three following environments on final bimorphemic cluster simplification.

	__##V	__##	__##C
Intact	144	10	34
Simplified	58	27	109
Percent simplified	28.7	73.0	76.2

It is clear that the effect of a consonant and the effect of a pause are virtually identical. The data justify a dichotomy of following environments as Labov has suggested--between vowel and nonvowel. Tabulated in this way, the effect of a vowel on deletion compared to the effect of a consonant is statistically highly significant, as Table 16 shows.

Table 16. Comparison of the effect of a following vowel and the absence of a following vowel on final bimorphemic cluster simplification.

	__##V	__##(C)
Intact	144	44
Simplified	58	136
Percent simplified	28.7	75.6

N = 382

X^2 = 86.4, $p<.001$

Another constraint discussed by both Labov and Wolfram is the phonological quality of the first member of the cluster. Three major kinds of consonants were investigated for their effect on deletion: stops, spirants, and sonorants. Labov dealt with these constraints relatively grossly; he combined stops and spirants as obstruents and compared them with sonorants.

However, his sonorant category does not include [n]. Labov found [nd] and [nt] clusters hard to tabulate for the following reasons (Labov et al. 1968:126):

> In the case of nasal /n/ plus /-t,d/, we frequently find that a nasal flap is formed in which the stop feature is expressed by the ballistic flap character and the nasal by nasality. Yet this flap characteristic shades imperceptibly into a single nasal, and it was found impossible to code the series satisfactorily: that is, the number of indeterminate cases was large as compared to the clear cases.

Tabulating in this way, with stops and spirants classed together as obstruents, and with sonorants not including [nd] clusters, Labov found that a preceding obstruent favored deletion more than a preceding sonorant.

The Washington data included forty-six examples of potential [nd] clusters. Most of these seemed to be relatively straightforward; the verb was either transcribed as ending in [nd] and the cluster tabulated as intact, or the verb ending was transcribed as [n] and the cluster tabulated as simplified. But there were three kinds of problems for which special decisions had to be made. The first is the case Labov mentions in which the verb ends phonetically in a nasal flap, as in he had already signed up [saɲ̆ɐp] for it (60). These cases were tabulated as simplified clusters; however, there were only four cases in which a nasal flap was transcribed. The second problem involved cases in which both members of the cluster were absent, as in I loaned one [lə̃ʷwɐ̃] of my friends five dollars (61). In all such cases, the preceding vowel was nasalized, and there were no cases where [n] was transcribed as absent and [d] as present. These cases were tabulated as simplified clusters. The third problem arose with some pronunciations of the verb happened. In some examples, neither the [n] nor the [d] was present, but the verb ended in a syllabic [m], presumably by assimilation to the preceding [p],

as in I fell on the floor and was wondering what happened [hɨpm̩] (76). These cases were tabulated with the simplified clusters. Other pronunciations included both this syllabic bilabial nasal and [n], as in I forgot what happened at [hɨpmn̩t] the last part (55). Presumably, not only did the underlying syllable represented orthographically as en assimilate to the preceding labial stop, but the underlying [d] representing -ed assimilated to the preceding nasal. Under this assumption, these cases (four in number) were tabulated with the intact clusters. By making these decisions, we were able to include the potential [nd] clusters in our tabulations.

Wolfram's consideration of the nature of the preceding consonant differed from Labov's in two aspects. Like the present study, Wolfram included tabulations of potential [nd] clusters. More significantly, as it turns out, Wolfram broke down the obstruent segments into two categories--stops and spirants. This gives an interesting graded series based on sonority and continuing airstream mechanism.[23] Stops are neither sonorant nor sustained, spirants are sustained but not sonorant, and sonorants are both sustained and sonorant. Wolfram's results tend to indicate that the "sustained" feature (which he calls "continuant") is the feature providing the more important constraint on cluster simplification. Tabulating his examples of bimorphemic clusters when followed by something other than a consonant, Wolfram (1969:70-71) found that:

> Particularly for the working-class informants, where final stop absence is a fairly regular pattern, the stop + stop clusters show a lower percentage of absence than the spirant + stop and nasal/lateral + stop. In spirant + stop and nasal/lateral + stop clusters, the first member of the cluster is a continuant.... If the scores for continuant + stop clusters are contrasted with those for stop + stop clusters, the difference between the two types of clusters is significant.

The difference in the frequency of final consonant absence after spirants compared to absence after sonorants is not nearly so clear in Wolfram's data. Wolfram compared the frequency of absence after spirants with absence after sonorants for both bimorphemic and monomorphemic clusters.[24] By and large, more final consonants were absent after spirants than after sonorants. Among the monomorphemic clusters, however, the upper-middle-class speakers had about the same level of absence after the two kinds of consonants, and the lower-working-class had a higher rate of absence after spirants than after sonorants. When the bimorphemic clusters were tabulated, absence after spirants exceeded absence after sonorants, except for the lower-working-class speakers, for whom the reverse was true.

The Washington working-class speakers proved to be very sensitive to the effect of the preceding consonant in their application of the cluster simplification rule. Final stops were deleted after stops 37.4 percent of the time, the frequency after spirants was 49.1 percent, and after sonorants the frequency was 63.3 percent. This distribution was highly significant, as Table 17 shows.

Table 17. Comparison of the effect of three types of preceding consonants on final bimorphemic cluster simplification.

	Sonorants__##	Spirants__##	Stops__##
Intact	54	57	77
Simplified	93	55	46
Percent simplified	63.3	49.1	37.4

N = 382

$X^2 = 18.10$, $p < .001$

For the Washington speakers, deletion after spirants is much more clearly intermediate between deletion after stops and after sonorants than was the case for the Detroit speakers. Clearly, "stopness" and obstruence inhibit deletion, while sustained airstream and sonorance favor it. Stops, which incorporate both the inhibiting factors, cause the lowest level of deletion frequency. Sonorants, which have the two favoring features, cause the greatest frequency. Spirants are obstruent, tending to lower deletion frequency, and sustained, tending to raise it. Not only are these results statistically significant for the Washington data and reasonably convergent with Wolfram's Detroit analysis, but they also make good phonetic sense as well.

Wolfram makes a suggestion as to why "continuants" should favor deletion more than stops do (Wolfram 1969:71):

> With continuant + stop clusters, the continuant is often lengthened when the final stop is absent (e.g. [mɛs:əp] 'messed up'). This lengthening can compensate for the absence of the final stop. With voiceless stop consonants, the same type of lengthening does not generally occur. Thus, the observed difference in frequency lies in the potential for lengthening that is found in the continuants as opposed to stops. Until further quantitative study, and more reliable transcription of length can be achieved, this interpretation is only tentatively proposed as an explanation for the frequency differences between the various types of clusters.

An attempt was made to check Wolfram's eminently reasonable hypothesis against the Washington data. Length proved to be rather difficult to perceive with any high degree of confidence, so it is doubtful that Wolfram's call for "more reliable transcription of length" was actually met. Nevertheless, it soon became apparent that, contrary to Wolfram's expectations, there were a number of examples in which length was as clearly perceivable in stop consonants as it was in continuant consonants, although it was seldom transcribed for either. Examples of each kind of transcription appear below:

Long continuant: We get the tree fixed up [fɪ·ks·ɘp] and what not. (10)

Long stop: The best teacher I ever had was my first-grade teacher. And I liked [laɪ·k·] her the best because .... (07)

A comparison of the number of transcriptions of long stops before deleted -ed with the number of transcriptions of long continuants showed very little difference. There were 148 examples of simplified bimorphemic clusters in which the first member was a continuant. In fifteen of these cases, a long continuant was transcribed, or 10.1 percent. There were forty-six examples of simplified bimorphemic clusters in which the first member was a stop. Six of these were transcribed as long stops, or 13 percent. In short, we were unable to verify Wolfram's hypothesis.

The Washington results, then, agree with Wolfram's data, but not with Labov's. Labov says nothing about his conclusion that sonorants in the preceding environment do not favor deletion as much as obstruents, except to state that they do not: "Finally, we note that clusters with sonorant first members show less simplification than those with obstruent first members"(Labov et al. 1968:135). There are several factors which might explain why his results are in this direction. First, Labov did not consider [nd] clusters. In the Washington data, [nd] clusters were somewhat more often simplified than other sonorant + [d] clusters. Secondly, he presumably did include [lt] clusters. This cluster is an example of mixed-voiced clusters which Wolfram excludes from simplification entirely.[28] It seems reasonably clear that these mixed-voiced clusters are at least less liable to be deleted than sonorant + [d] clusters, and so would tend to lower the tabulation of frequency of deletion for sonorant + stop clusters in Labov's data. Third, Labov may well have included [rd] clusters in his count, which would again tend to lower the deletion frequency

for sonorant + stop clusters. Finally, this constraint is a relatively low-level one, and is probably not well-ordered for all sets of Black English speakers. We saw that in Wolfram's data the ordering between sonorant + stop and spirant + stop clusters was not clear. Tabulating stop + stop and spirant + stop clusters together as obstruent clusters would give Labov a frequency level that could easily be poorly ordered with respect to sonorant + stop clusters.

In their study of black adolescents in New York, Labov et al. raise the issue of the status of the final [d] or [t] in such verbs as keep-kept, leave-left, and tell-told (Labov et al. 1968:127). These final consonants are not unambiguously the sign of past tense; the vowel change also indicates the grammatical category. Labov and his associates found that the frequency of cluster deletion when these "ambiguous" cases were involved was lower than the frequency of simplification of monomorphemic clusters but higher than the frequency of bimorphemic clusters when a vowel change was not involved. This result was replicated in the Washington data, except, of course, that there are no data on monomorphemic clusters. Of seventy verbs which form their past tense, past participial, and derived adjective forms by both a vowel change and the addition of [t] or [d], fifty-six (or 80 percent) had simplified clusters. Of the 312 examples of verbs which form these forms only by the suffixation of [t] or [d], 138 (or 44.2 percent) had simplified clusters (see Table 18).

In analyzing the absence of [d] representing -ed affixed to verb bases ending in a vowel, it was found that deletion was favored if the final syllable was unaccented. An analysis of this constraint in connection with final consonant clusters revealed that weak accent favored deletion of [d] or [t] as the second member of a bimorphemic cluster as well. That is, the -ed suffix is significantly more likely to be absent in a verb

Table 18. Comparison of the effect of vowel change and the absence of vowel change on final bimorphemic cluster simplification.

	Vowel Change	No Vowel Change
Intact	14	174
Simplified	56	138
Percent simplified	80.0	44.2

N = 382

$X^2 = 27.5$, $p < .001$

like dámaged than in a verb like móved or belfeved. In tabulating the effect of this constraint, the seventy-one examples of verbs which form their past tense by a vowel change as well as the addition of [d] or [t] were removed, because all such verbs are monosyllabic and therefore fall into the accented syllable category. This means that the vowel change constraint could effect the tabulation of the stressed syllables, but not the unstressed syllables. Of the remaining 311 examples, 30 had final unaccented syllables, while the remaining 281 ended in or consisted of an accented syllable. Simplified clusters occurred in 70 percent of the unstressed syllables but in only 41.6 percent of the stressed syllables. This difference was significant, but only at the .01 level of confidence (see Table 19).

In the case of -ed with verbal bases ending in a vowel, it was found that [d] absence was significantly less frequent when it represented the past tense than when it represented a past participle or a derived adjective. The tabulations seemed to suggest that the relatively more serious potentia. loss of information might serve to inhibit [d] absence in past tense forms. The situation with respect to bimorphemic clusters

Table 19. Comparison of the effect of stress and the absence of stress on final bimorphemic cluster simplification.

	Stressed Syllables	Unstressed Syllables
Intact	164	9
Simplified	117	21
Percent simplified	41.6	70.0

N = 311

$X^2 = 8.83$, $p < .01$

seems quite analagous, and the same argument would seem to be applicable. But the data do not bear out this reasoning. Whether or not the final [t] or [d] of a consonant cluster represents a past tense -ed or a participle or an adjective -ed had a very slight effect on its frequency of deletion. Of the 299 potential past tense clusters, 49.5 percent were simplified. Of the 83 adjectival and participial bimorphemic clusters, 55.4 percent were simplified. The tendency was thus in the same direction as in the case of [d] absence after vowels, but the difference was not significant.

Labov mentions voicing as a minor constraint on consonant cluster simplification; that is, voiced clusters are slightly more likely to be simplified than voiceless clusters. He indicates that he compared all clusters in which both members are voiced with those in which both members are voiceless, eliminating the mixed-voiced [lt] clusters. This means that all the clusters whose first member is a sonorant were included among the voiced clusters, thus mixing the effect of a sonorant with the effect of voicing. To discover precisely what the effect of voicing would be, it seemed wise to control for manner of articulation. For the Washington working-class

speakers, voiced obstruents (both spirants and stops) were compared with voiceless obstruents. It was discovered that bimorphemic clusters whose first members were voiceless obstruents were deleted at a frequency rate of 41.2 percent while the rate after voiceless obstruents was 48.8 percent. This difference is not significant. It seems that voicing alone is not a constraint on deletion, at least not for the Washington speakers.

2.3.6 The form of the rule. We are now in a position to discuss the specific form of the cluster simplification rule. First, we shall attempt to resolve the major differences between the descriptions of Labov and Wolfram. To do this, we will consider the four questions raised earlier in this section.

1. Does deletion apply to [d] after vowels under the same general conditions as to [d] after consonants?

A "yes" answer would support Labov's "t,d deletion rule" over Wolfram's analysis of clusters only. Wolfram believed he had found a difference between the effect of pause and the effect of following vowels and consonants on [d] absence after a vowel as compared to consonant-cluster simplification:

> The difference between (a) consonantal and non-consonantal, and (b) vocalic versus non-vocalic in the tabulations is found in the classification of pause or terminal juncture. In (a), pause and terminal juncture are included in the non-consonantal environment; in (b), in the non-vocalic. The effect of pause operates quite differently for the d variable and the consonant-cluster variable. (Wolfram 1969:131, note 17)

Labov, of course, did not find such a difference in the effect of pause on the deletion of [d] after vowels and after consonants, and, as we have seen, our results show that the effect of pause is the same as the effect of a consonant on [d]-deletion as well as on consonant-cluster simplification.

The significant constraints on the deletion of [d] after vowels found in the present study are: (1) the presence or absence of a vowel following potential final [d]; (2) whether the -ed represented by [d] marks the past tense or not; and (3) whether or not the final [d] in question occurs in an accented or unaccented syllable. The significant constraints on cluster simplification which we found are: (1) the presence or absence of a vowel after a potential cluster; (2) the obstruence and sonorance of the preceding consonant; (3) whether the verb in question has past and derived adjective forms involving a vowel change; and (4) whether the cluster in question occurs in an accented or unaccented syllable. In both cases, the presence or absence of a vowel serves as a major constraint, and the presence or absence of strong accent as a minor one. The constraints having to do with the phonetic qualities of the preceding consonant and with the vowel change in the case of cluster simplification are not relevant to [d]-deletion after vowels. The only difference in constraints on the two cases of final consonant absence has to do with the function of the -ed suffix. This was an important constraint on the deletion of [d] after vowels but was statistically not significant as a constraint on bimorphemic cluster simplification. Nevertheless, the tendency found for cluster simplification was in the same direction as that found for [d]-deletion after vowels: slightly fewer bimorphemic clusters were simplified if the final member represented past tense -ed than if it represented adjectival or participial -ed. If enough populations of Black English speakers could be found with the same tendency, statistical significance as shown by such tests as chi-square would not be important. Yet, if the data for other populations patterned in general as the Washington data do, there might be a problem in ranking the constraints in hierarchical order, since past tense function seems to be a much higher-ranking

constraint in the case of [d]-deletion after vowels. However, it would be possible to cut the Gordian knot by tabulating both kinds of deletion together and ranking the aggregate frequencies. In any event, the bulk of the evidence points toward a "yes" answer to Question 1.

2. Does deletion apply to [t] after vowels or voiced consonants under the same general conditions as to [t] after voiceless consonants?

Unfortunately, it will be impossible to answer this most crucial question. In the Detroit study and in the present study, casual preliminary listening to the tape recordings seemed to indicate that final [t] absence after vowels, [n], and [l] was almost negligible, and as a result, no tabulations were made of [t] absence in these environments in either study. Since Labov did make tabulations in this area and found that [t] absence could be combined with [d] absence in these environments, the answer to Question 2, in the absence of counterevidence, must be (a qualified) "yes".[20]

3. Does deletion apply to [p], [t], and [k] after [s] under the same general conditions as to other stops which agree in voicing with the preceding consonant?

The answer to this question is crucial for the determination whether or not a rule limited to [t] and [d] is justified. Labov and his associates (1968:131) give three arguments why [s] + [p], [t], or [k] clusters are not governed by the same rule which deletes [d] or [t] in other environments. We shall consider each one of them in turn:

A. The frequency simplification is higher, approaching that of a categorical rule for many speakers.

This cannot be taken as an argument for setting up a separate rule any more than the fact that [t] and [d] are more often deleted after a consonant than after a vowel constitutes

a conclusive argument that a separate rule is needed for these environments, too. Higher frequencies of rule operation in some environments than in others is precisely the kind of phenomenon that Labov's treatment of variable constraints is designed to account for. Even for those speakers for whom simplification frequency in this environment "approaches that of a categorical rule", variable rule can be written to predict invariance within the variable rule (Labov 1969b:739-40).[47] It would be peculiar to delete [st] clusters by a separate rule, and not with the remaining instances of final [t] deleted by the final "t,d deletion rule". For the Washington speakers, it was not true that [s] raised the frequency of [t]-deletion, as compared to other voiceless spirants. Clusters of the form [s#t] were simplified 48.9 percent of the time, while other clusters of the form $\begin{bmatrix} +\text{cons} \\ -\text{son} \\ +\text{cont} \\ -\text{voice} \end{bmatrix}$ #t were deleted 51.9 percent of the time.

Further confusion results when we examine the [s] + stop cluster simplification rule as Labov writes it. The rule deletes final stops after all strident segments. If we accept Chomsky and Halle's (1968:176) specification of the features of the English consonants, this would delete stops (in particular [t]) after any voiceless spirant. Yet Labov does not present any evidence of dramatically higher deletion frequencies after any spirants except [s].

> B. These are the only clusters in which final -p and -k are effected: that is, after nasals and liquids these stops are preserved intact.

This fact is not disputed. However, it would be accounted for equally well by Wolfram's more general restriction that the two members of a cluster must agree in voicing for deletion to take place.[48] The clusters [sp] and [sk] are the only two final clusters in English involving [p] and [k] as the second

member in which the voicing specification of both members is the same. But if we accept a "yes" answer to Question 2 above, we cannot preserve the voicing agreement restriction on the cluster simplification rule as a whole. As a result, the simplification of [sp] and [sk] clusters must be, if not a separate rule, at least a subcase of the general deletion rule.

> C. Final -sts, -sps, -sks present special difficulties for NNE [Negro Nonstandard English] speakers. These clusters are literally unpronounceable for most individuals ... and are resolved by a number of means all of which involve the loss of the stop.

One of these "means" involves the insertion of [ɨ] and the removal of the final stop between the two occurrences of [s]. Thus, the plural of test for many Black English speakers is [tɛsɨz]. But, as Labov goes on to show, this plural form is the result of a general rule for [ɨ]-epenthesis in English, which applies between the final sibilant of a base and a [z] suffix. This rule applies after the deletion of the final stop, by whatever means, and sheds no light on the form of the rule by which the stop is deleted.

Another of these "means" involves the pronunciations [dɛs:] for desks and [tɛs:] for tests. These pronunciations, by no means uncommon in standard English, seem to involve the deletion of the stop between two homorganic consonants. This phenomenon is not limited to [s]; it seems, on the basis of the Washington data, that -ed in the form [d] or [t] was virtually always deleted between any pair of homorganic consonants, even across word boundaries, as in the examples below.

> He jumpted back [dᶻæmpbæk] and he went down and hit the ground. (86)
>
> 'Cause the dude slapped me [slæpmi] a couple of times, hisself. (84)

Again, it seems that this should be a constraint on the general

deletion rule; in any event it does not seem to be evidence to be used in an argument involving only [s] + stop clusters.[20]

Of Labov's arguments, only argument B seems to have any validity, and it is valid, not because the first member of the clusters involved is [s], but because the second members of some of these clusters are [p] and [k]. We conclude that the answer to Question 3 is "yes".

4. Does deletion apply to clusters which agree in voicing and which do not begin with [s] and/or end in [d] or [t] under the same general conditions as it does to clusters which agree in voicing and do begin with [s] and/or end in [d] or [t]?

This question refers to the case in which deletion would be predicted by Wolfram's voicing agreement constraint but in which Labov's rules would predict no deletion, since the case is covered neither by the "t,d deletion rule" nor by the [s] + stop rule. Bruce Fraser (personal communication) has searched for such clusters in English and found that the language has only a single lexical item meeting these conditions--the word bulb. Neither the present study nor either of the two previous studies extracted pronunciations of the word bulb, so that there are no hard data to refer to. However, most linguists who have worked on Black English would agree that no pronunciation involving the absence of the final stop is possible. The situation is further complicated by the fact the [l] member of the cluster is often not a consonant, so that a phonetic consonant cluster does not result. This fact makes it tempting to postulate that there is no underlying [l] in the Black English phonological structure of the word. However, the fact that bulb is sometimes pronounced with a consonantal [l], and also that Black English has a rule for [l]-vocalization

on independent grounds (cf. Labov 1969b:748,755), indicates that this is not the solution.

Even if there is a consonantal [l] in the underlying form, if it is vocalized before the application of the simplification rule, Wolfram's constraints would not predict deletion, because the final stop would then be preceded by a vocalic segment. But the evidence from final [ld] clusters is that the vocalization of [l] should follow the cluster simplification rule, since the absence of [d] after vocalized [l] seems to be at frequency levels comparable to absence after consonants, not after vowels (see Labov 1969b:748). The word bulb seems clearly a counterexample to Wolfram's voicing agreement condition and to be consistent with what Labov's rules predict. Since there is only one word involved, it would be an easy matter to mark bulb as an idiosyncratic exception to the cluster simplification rule, but it can occasionally be the case that such marginal instances provide the only valid evidence to decide between alternative analyses. The answer we accept to Question 4, then, is "no".

Since our acceptance of "yes" as the answer to Question 2 and "no" as the answer to Question 4 entails the rejection of Wolfram's voicing agreement restriction and acceptance of Labov's limitation of the operation of cluster simplification to [t] and [d], we will have to modify the "t,d deletion rule" to include [sp] and [sk]. The rule is no longer a "t,d deletion rule" but a "final stop deletion rule". With this one exception, we endorse Labov's analysis against Wolfram's.[20]

The form the rule takes thus far, excluding the Greek letters to indicate hierarchy of constraints and with the variable constraint in parentheses, is:

$$\begin{bmatrix} +\text{cons} \\ -\text{son} \\ -\text{cont} \\ -\text{strid} \\ \langle -\text{cor} \rangle \end{bmatrix} \rightarrow (\emptyset) / \left(\begin{bmatrix} +\text{cons} \\ \langle -\text{voice} \rangle \end{bmatrix} \right) ___ \#\#$$

All nonsonorant, noncontinuant (i.e. stop) consonants which are not strident (excluding [t^s] and [d^z]) may be deleted if they are the second member of a consonant cluster. However, noncoronal stops ([p], [b], [k], and [g]) may be deleted only if the first member of the cluster is voiceless. This restriction does not apply to the nonstrident coronal stops ([t] and [d]). Since [b] and [g] never occur as the second member of a final consonant cluster if the first member is voiceless, this restriction is effectively limited to [p] and [k]. Since the only voiceless consonant which can precede [p] and [k] in this environment is [s], the restriction limiting deletion of noncoronal stops to those instances where they follow voiceless consonants allows the rule to apply to [sk] and [sp] clusters in addition to final [d] and [t]. As we have indicated, the preceding environment will not be limited to consonantal segments, but this environment will be one of the hierarchized constraints.

Earlier in this section, we mentioned that if [r] preceded a final stop, the frequency of deletion resembled the deletion frequency of postvocalic environments rather than postconsonantal environments. As the rule stands now, final stops can be deleted (at a certain relative frequency level) after any [+cons] segment, that is after any $\begin{bmatrix}+\text{cons}\\-\text{voc}\end{bmatrix}$ segment (any true consonant) or after any $\begin{bmatrix}+\text{cons}\\+\text{voc}\end{bmatrix}$ segment (any liquid). But this does not predict the apparent empirical facts: [l] should be included but [r] should not. But to include all [+cons] segments except [r] results in an odd set of feature specifications, namely:

$$\begin{bmatrix}+\text{cons}\\(-\text{voc}\\+\text{ant})\end{bmatrix}$$

This means that the segment in question must be consonantal

and either nonvocalic, or, if vocalic, then anterior. The features vocalic and anterior are unrelated, and to require that a segment be either minus for one or plus for the other seems very strange. There is, of course, no reason why a phonological analysis cannot contain odd specifications if the phonological situation being described is a strange one. Suppose, for example, that there was a late rule in English which specifies a phonological process which takes place following any consonant except [f]. The specification of this environment would be:

$$\begin{bmatrix} +\text{cons} \\ \begin{pmatrix} +\text{cor} \\ -\text{cont} \end{pmatrix} \end{bmatrix}$$

This specification states that the segment is consonantal and either coronal, or, if not coronal, then noncontinuant. The oddness of this specification matches the oddness of the hypothetical situation; there is no reason why [f] and only [f] should be excluded from an environment which includes all the other consonants in the language. But given the facts about the phonetics of American English constricted [r], it would not seem implausible that it should for some rule function like a vowel or a glide, rather than a consonant.

There seem to be at least four solutions to this problem. One, of course, is simply to accept the odd specification suggested above. Another would be to argue that the complication is evidence that varaible rules are not linguistically interesting. A truly linguistic rule, in this view, would not require a phonetically implausible specification. The consonant cluster rule, as it is being formulated now, applies to [t] and [d] in any environment and to [p] and [k] only after [s]. The only reason we need to talk about all consonants except [r] is that this environment has an important effect on the relative frequency of deletion. If we decide that relative

frequency is irrelevant to linguistic theory, we simply write an optional rule of the form:

$$\begin{bmatrix} +\text{cons} \\ -\text{son} \\ -\text{cont} \\ -\text{strid} \\ \langle -\text{cor} \rangle \end{bmatrix} \rightarrow (\emptyset) / \; [\langle -\text{voice} \rangle] ___ \#\#$$

In brief, this rule says that final [t] and [d] can be optionally deleted no matter what precedes or follows, and that final [k] and [p] can optionally be deleted after [s]. This is tantamount to saying that linguistic theory has nothing to say about degrees of optionality and that variations in relative frequency, however dependent on linguistic environment, should be left to "performance" or accounted for in some other non-linguistic way.

In Fasold (1970), I argued that variable constraints not only predict relative frequency, but also predict that there will be speakers for whom a rule is applicable in the more favorable environments, but not in less favorable ones. Consider, for example, a rule of the form:

$$X \rightarrow (\emptyset) / \begin{Bmatrix} A & Y \\ B & Z \end{Bmatrix} ___$$

This rule predicts that, for speakers who delete X in both Y ___ and Z ___, X is more frequently deleted in Y ___ than in Z ___. But it also predicts that there may be speakers who delete X in Y ___ but not in Z ___, although there will be no speakers who delete X in Z ___ but not in Y ___. To take the case of the final stop deletion rule, this means that there may be speakers for whom final consonants are deletable after consonants (the favorable environment) but not after vowels. Wolfram's data strongly suggest that there are, in fact, such speakers. All of Wolfram's social-class groups delete final monomorphemic consonants in postconsonantal position at considerable frequency levels. However, the upper-middle-class

white and black groups delete final [d] in postvocalic position only very infrequently. The exact figures, culled from Wolfram (1969:60,97), are shown in Table 20.

Table 20. Comparison of consonant cluster simplification and postvocalic [d]-deletion in the speech of upper-middle-class Detroit speakers.

	Percentage deletion	
	C in C__##	[d] in V__##
UMW	38.7	2.0
UMB	51.0	3.7

Since twenty examples of potential final clusters and twenty examples of potential final [d] were tabulated for each of the Detroit informants, there must have been many in these two groups who showed no [d]-deletion at all to produce percentages under 4 percent. On the other hand, there must have been several in these same groups who displayed at least some cluster simplification in order to produce percentages in excess of 38 percent. Therefore it is clear that there are some upper-middle-class speakers who have deletion after consonants but not after vowels. If these speakers also show no deletion after [r] as well as after vowels, as seems likely, especially for the black speakers, then their rule, stated informally and ignoring variable constraints, is:

$C_1 \rightarrow (\emptyset) / C_2 ___ \#\#$

where C_2 is voiceless if not coronal

and is not [r] in any event

In other words, in order to write the correct phonological deletion rule to describe these speakers' competence, the problem of eliminating [r] from the preceding environment must be faced, even if the rule is not a variable one.

A third solution has to do with the capability of [r] to serve as a syllable peak. A closer examination of the examples in the preliminary tabulation of potential [rd] clusters revealed the [r] in question was syllabic in all but two cases. In a dialect of southern origin, like Black English, it is not surprising that [r] in nonprevocalic position should be pronounced in a clearly constricted manner only when syllabic.[31] This suggests that [d] is deleted less frequently after syllabic segments than after nonsyllabic segments, rather than basing the distinction on whether the final [d] occurs after a vowel or a consonant. This would fit well with Chomsky and Halle's suggestion (1968:353-355), which they attribute to J.C. Milner and C.-J. Bailey, that the feature "vocalic" should be replaced by the feature "syllabic". If this is the case, then the constraint about the preceding consonant should be stated as $\begin{bmatrix}+\text{cons}\\-\text{syl}\end{bmatrix}$. So stated, the constraint excludes vowels (which are always syllabic), glides (which are nonconsonantal), and syllabic sonorants. In order for this to be the correct solution, syllabic [l] and syllabic nasals should have an effect on frequency analagous to the effect of a vowel or [r], and nonsyllabic [r] should have an effect like a sonorant consonant. But there are so few examples of syllabic [l], syllabic nasals, and constricted nonsyllabic [r] in our data that this hypothesis cannot be verified. What data there are seems to indicate that deletion is much more inhibited after syllabic [l] than after nonsyllabic [l], but not much more inhibited after syllabic nasals than nonsyllabic nasals. If these indications are truly representative, then the specification we must make is as undesirable as the original one, namely:

$$\begin{bmatrix}+\text{cons}\\-\text{syl}\\-\text{nas}\end{bmatrix}$$

The analysis involving the specification [-syl] can be saved,

however, if nonsyllabic [r] turns out to have a consonant-like effect, and (1) additional data on syllabic nasals show that they actually do have an effect like a vowel; or (2) it can be shown that [r] and [l] are syllabified before application of the deletion rule and nasals are syllabified after it has applied.

The fourth possible solution has to do with a revision of the features of English [r]. Most descriptions of English based on generative phonological theory define [r] and [l] by the features $\begin{bmatrix}+\text{cons}\\+\text{voc}\end{bmatrix}$. It will be instructive to examine the reasoning behind this. According to Jakobson, Fant and Halle (1963), laterals and "the various intermittent r-sounds" are so specified. They make it clear, however, that this specification does not apply to English [r] (Jakobson, Fant and Halle 1963:22):

> As for the so-called "continuant r , it is actually a non-syllabic vowel. For example, the English "Received Pronunciation" possesses a vowel phoneme, which is opposed as diffuse to /a/, as grave to /i/ and as unrounded (plain) to the rounded (flat) /u/. This phoneme is split on the prosodic level into an unstressed /ə/ and a stressed /'ə/. The former loses its syllabicity in the neighborhood of another vowel phoneme (bear /b'eə/) and becomes still "closer" when followed by a vowel (red /ə'əd/). The stressed phoneme /'ə/ is represented by a more advanced and close variant before unstressed /ə/ (bird /b'əəd/) and by a more retracted and open variant [^] in other positions (bud /b'əd/).

For these scholars, then, English [r] is not a liquid at all, but rather a vowel. As such, its features would be $\begin{bmatrix}-\text{cons}\\+\text{voc}\end{bmatrix}$. If this analysis is correct, the problem of separating [r] from [l] is solved; the environment must simply be specified as [-cons].

This analysis has not been widely accepted for English, however. In Chomsky and Halle (1968), for example, both [l̥] and [r] are marked as $\begin{bmatrix}+\text{cons}\\+\text{voc}\end{bmatrix}$. It is crucial for our purposes

to examine the justification for marking [r] as [+cons]. Describing distinctive features in articulatory terms, "consonantal" is defined as (Chomsky and Halle 1968:302):

> ... sounds [which] are produced with a radical obstruction in the midsagittal region of the vocal tract.... In the case of the common lingual [r]-sounds, the raised tongue narrows the passage sufficiently to produce a consonantal obstruction even if it does not make complete contact with the roof of the mouth.

In their discussion of the feature "consonantal", Chomsky and Halle show that they intend "radical obstruction" to be characteristic of [r], but not of glides or retroflexed vowels. But it must be questioned if the obstruction of English [r] is really significantly more "radical" than that of [y] or [w].

If we accept Chomsky and Halle's definition of consonantal, it seems that an equally good case can be made for assigning the feature [-cons] to English [r] as [+cons], simply by deciding that the constriction is not "radical" enough. At the same time, it is not necessary to follow the Jakobson, Fant and Halle analysis of English [r] as a vowel. It is easily conceivable that [r] should be specified as a glide. If the feature "vocalic" is used, [r] would then have to be specified as [-voc]. The same argument by which [r] is assigned the feature [+cons] applies to the [-voc] assignment. According to Chomsky and Halle (1968:302), vocalic segments:

> ... are produced with an <u>oral</u> cavity in which the most radical constriction does not exceed that found in the high vowels [i] and [u] and with vocal cords that are positioned so as to allow spontaneous voicing.

English [r] is not vocalic if its constriction is not (significantly) more radical than that of [i] or [u]. If the feature "syllabic" is substituted for the feature "vocalic", [r] need only be marked [-cons], since glides are distinguished from nonsyllabic liquids by the feature "consonantal" alone (Chomsky and Halle 1968:354).

We would be justified in specifying [r] as a glide ($\begin{bmatrix}-\text{cons}\\-\text{voc/syl}\end{bmatrix}$) in order to simplify the consonant deletion rule only if by so doing an inordinate number of other phonological rules of English are not thereby complicated. One way to get evidence on this would be to search the literature and note the effect that this change would have on the rules that have been proposed for English. As an exploratory first step, we examined the summary of rules in Chomsky and Halle (1968:238-245) to see what effect specifying [r] as a glide would have. It was found that none of these rules would be complicated by such a change, and that three of them would actually be somewhat simplified.

These three rules are the Main Stress Rule, a rule for vowel tensing and rounding, and another rule for vowel tensing. These rules have as part of their environments the specification $\begin{bmatrix}\alpha\text{voc}\\\alpha\text{cons}\\-\text{ant}\end{bmatrix}$. This specification refers to all segments which agree in vocalicity and consonantality and are nonanterior. All glides are $\begin{bmatrix}-\text{cons}\\-\text{voc}\end{bmatrix}$ and [-ant]. Liquids are $\begin{bmatrix}+\text{cons}\\+\text{voc}\end{bmatrix}$, but [l] is [+ant]. Therefore, this specification is designed to include all glides and [r]. If [r] is also a glide, the specification need not refer to the feature anterior; $\begin{bmatrix}-\text{cons}\\-\text{voc/syl}\end{bmatrix}$ will suffice.

If [r] is given the feature specification of a glide or even (following Jakobson, Fant and Halle) a vowel, it will be marked [-cons]. With this specification, [r] will be excluded, as desired, from the consonantal environment given on page 82.

Of the three possible solutions we have outlined, we can clearly reject only the one which demands the abandonment of the variable rule concept. The evidence for or against the

solution involving the feature "syllabic" and the solution by which [r] in English is marked [-cons] is too inconclusive even for a tentative adoption of either. Thus, we will write the rule conservatively with the features given in Chomsky and Halle (1968):

$$\begin{bmatrix} +\text{cons} \\ -\text{son} \\ -\text{cont} \\ -\text{strid} \\ \langle -\text{cor} \rangle \end{bmatrix} \rightarrow (\emptyset) / \left(\begin{bmatrix} +\text{cons} \\ -\text{voc} \\ +\text{ant} \\ \langle -\text{voice} \rangle \end{bmatrix} \right) __ \#\#$$

Another constraint that needs special comment is the one involving verbs like keep and tell, which form their past tense, past participial, and derived adjectival forms by vowel change as well as by adding [t] or [d]. This feature was found to favor deletion. The question arises concerning how this constraint is to be written in the rule.

Problems involved in specifying the environments for vowel change can be solved if it is assumed that the formative boundary + intervenes between the verbal base and the -ed suffix in these verbs, while the word boundary # intervenes in the regular verbs (Chomsky and Halle 1968:210,369,370; Sloat and Hoard 1970). Thus, told is represented as [$t^h o^u l$+d] and tolled as [$t^h o^u l$#d]. If it is assumed that this is the correct way to distinguish these semiirregular verbs from regular ones, it will also help in dealing with the constraints on deletion. To review the facts, it is the case that cluster simplification occurs more often if there is no boundary present between the members of the cluster than if there is, and if a boundary is present, there is more deletion if the boundary is + than if it is #. Labov accepts the distinction between the two kinds of boundaries and accounts for it by assuming that # is the equivalent of two instances of +. The presence of +, then, is a constraint on "t,d deletion" and an additional + (adding up to #) is another constraint. Labov's insight can perhaps be better

handled by making use of the distinctive features for boundaries proposed by Chomsky and Halle (1968:364-372). In their system, the relevant features are:

for +: $\begin{bmatrix} \text{-seg(ment)} \\ \text{+F(ormative) B(oundary)} \\ \text{-W(ord) B(oundary)} \end{bmatrix}$

for #: $\begin{bmatrix} \text{-seg} \\ \text{-FB} \\ \text{+WB} \end{bmatrix}$

Both boundaries share the feature [-seg] and can be distinguished by either of the other features.[32] Somewhat arbitrarily, we suggest that they are to be distinguished by the formative boundary feature. In this way, we assume that the absence of a unit having the feature [-seg] between the members of the cluster favors the operation of the rule, but if such a unit does intervene, then the rule is favored more if it also has the feature [+FB] than if it does not. The form of the rule, with these variable constraints in parentheses, now is:

$$\begin{bmatrix} \text{+cons} \\ \text{-son} \\ \text{-cont} \\ \text{-strid} \\ \langle\text{-cor}\rangle \end{bmatrix} \rightarrow (\emptyset) / \#\# \; X \; \left(\begin{bmatrix} \text{+cons} \\ \begin{pmatrix} \text{-voc} \\ \text{+ant} \end{pmatrix} \\ \langle\text{-voice}\rangle \end{bmatrix} \right) \sim \left(\begin{bmatrix} \text{-seg} \\ (\text{+FB}) \end{bmatrix} \right) __ \#\#$$

A further problem which arose was in connection with the behavior of sonorants and spirants, as opposed to stops, as the first member of a potential cluster. In the Washington data, sonorants favored deletion the most, followed by spirants, then stops. If this subset of constraints were to be hierarchized, there are two possibilities. One could take the feature common to spirants and stops, viz. [-son], and make the absence of this feature the primary constraint. Within the nonsonorant consonants, the secondary constraint would be "continuant". Alternatively, one could select a feature common to spirants and sonorants, say "sustained", as we suggested

earlier. Absence of this feature would be the primary constraint favoring deletion. Within the consonants specified [+sus], those which are [+] would secondarily favor deletion more than those which are [-son].

The way to decide how to hierarchize constraints in variable rule theory, as it has so far been developed, is to examine the crucial cross products. If the nonsustained sonorants favor deletion more than the sustained nonsonorants, then it is clear that sonorance should be recognized as the primary constraint. If not, then "sustained" is the primary constraint. Unfortunately, such a procedure cannot be followed, because, while there are sustained nonsonorants, viz. spirants, there is no such thing as a sonorant which lacks a "sustained" airstream mechanism. Another consideration is that in current versions of distinctive feature theory there is no feature corresponding to "sustained"; that is, no single feature shared exclusively by sonorants and spirants. This would be no special problem if we adopt the first of the two alternative solutions outlined above. Let [+son] be the main favoring feature and [+cont] be the secondary feature. This would suit the Washington data well, but is less satisfactory for Wolfram's Detroit data, where the distinction between sonorants and spirants is not as clear. As Wolfram suggested himself (1969: 71), his data are better served if a feature common to spirants and sonorants is used.

Another kind of analysis would involve modifying the meaning of the distinctive features. Perhaps the feature "continuant" should be modified so that continuance is not limited to the oral cavity, and sonorants are specified as [+cont]. Articulatorily, this would amount to a decision that the continuing outflow of air, by whatever route, is more important in phonology than the degree of obstruction in the oral cavity. In order to justify such a decision it would be necessary to

demonstrate that nasals and liquids function like spirants in some respects in the phonologies of at least some natural languages. Another conceivable solution would be to add the feature "sustained" to apply to continuing airstream consonants. But no evidence has ever been presented to suggest that such a feature is distinctive in any language. For English, this solution would mean assigning the feature [+sus] redundantly to both sonorants and spirants, just to simplify the final consonant deletion rule. In other words, it would cost a rule to simplify a rule, which is hardly economical.

The best solution presently available seems to be to designate [+son] as the primary favoring constraint for the Washington speakers and perhaps also for Wolfram's middle-class and upper-working-class speakers, with [+cont] functioning as a secondary constraint. Perhaps for all of Wolfram's social groups, and certainly for the lower-working-class speakers, the primary constraint should be considered the absence of the feature complex $\begin{bmatrix}\text{-son}\\ \text{-cont}\end{bmatrix}$, with no secondary constraint. Adopting this solution, the final stop deletion rule now has the form:

$$\begin{bmatrix}\text{+cons}\\ \text{-son}\\ \text{-cont}\\ \text{-strid}\\ \text{<-cor>}\end{bmatrix} \rightarrow (\emptyset) / \#\# \; X \left(\begin{bmatrix}\text{+cons}\\ \{\text{-voc}\\ \text{+ant}\}\\ \text{<-voice>}\\ (\text{+son})\\ (\text{+cont})\end{bmatrix} \right) \sim \left(\begin{bmatrix}\text{-seg}\\ (\text{+FB})\end{bmatrix} \right) __ \#\#$$

If we add the constraints concerning the following environment and accent, the rule takes the following form:[33]

$$\begin{bmatrix}\text{+cons}\\ \text{-son}\\ \text{-cont}\\ \text{-strid}\\ \text{<-cor>}\end{bmatrix} \rightarrow (\emptyset) / \#\# \; X \; ([\text{-acc}]) \left(\begin{bmatrix}\text{+cons}\\ \{\text{-voc}\\ \text{+ant}\}\\ \text{<-voice>}\\ (\text{+son})\\ (\text{+cont})\end{bmatrix} \right) \sim \left(\begin{bmatrix}\text{-seg}\\ (\text{+FB})\end{bmatrix} \right) __ \#\# \sim \left(\begin{bmatrix}\text{-cons}\\ \text{+voc}\end{bmatrix} \right)$$

It now remains to determine the hierarchy of the constraints. We already have decided that between the features sonorant and continuant, sonorant takes precedence. When the position of these two related features in the general hierarchy is determined, their ranks relative to the entire system can be determined. Our data, like Labov's, seem to indicate that the most important single constraint is that the final consonant which is potentially deletable follow another consonant (except [r]). The next most important constraint revealed by the analysis of the Washington data is the presence or absence of a vowel following the potential final stop. Assuming that an investigation of monomorphemic clusters in the Washington data would reveal that a boundary was the next most important constraint, as it was in Detroit and, for the most part, in New York, we will mark the presence of a boundary as the third constraint in the hierarchy.

The remaining constraints on deletion are: (1) presence of the feature [+FB] in the boundary between members of the cluster; (2) the properties of the consonant preceding the deletable consonant; and (3) the accent of the syllable from which the final stop is deletable. When the cross products for several of the constraints -- the formative boundary feature, the properties of the preceding consonant, and the presence of a following vowel -- were observed, a near-ideal array emerged (see Table 21). In spite of the fact that many of the cross products are based on a small number of examples, in only two places (indicated by asterisks) were the percentages seriously out of order.[34] The cross products indicate, not surprisingly, that the presence or absence of a vowel is the most important of the constraints displayed. Next is the boundary feature, followed by the two features which determine the nature of the preceding consonant.

Table 21. Cross products of some constraints on the final stop deletion rule.

Following Environment	Boundary	Preceding Consonant	No. Absent: No. Observed	Percent Absent
V	#	stop	7:65	10.8
V	#	spirant	14:55	25.5
V	#	sonorant	16:51	31.4
V	+	stop	12:14	85.7*
V	+	spirant	2:5	40.0
V	+	sonorant	7:12	58.3
~V	#	stop	25:42	59.5
~V	#	spirant	28:39	71.8
~V	#	sonorant	49:59	83.0
~V	+	stop	2:2	100.0*
~V	+	spirant	11:13	84.6
~V	+	sonorant	21:25	84.0

To get a somewhat clearer picture of the ordering constraints and to include the accent constraint, the cross products were compared pair-wise. (It was impossible to put the accent constraint in Table 21, since all the irregular verbs with the formative boundary are monosyllables, and therefore have strong accent.) The results are displayed in Table 22. With regard to the preceding consonants, only the sonorance feature was compared, since the place of the continuance feature in the hierarchy can be determined from the place of the sonorance feature.

In the case of the minor constraints, the frequency of deletion tends to level off when the more important member of the pair is favorable to the rule. By and large, these tables show that the presence or absence of a vowel in the following environment outranks all the other constraints, and that both

Table 22. Pair-wise comparison of four constraints on the final stop deletion rule.

Boundary	Following Environment	Percent Absent
#	V	25.1
+	V	67.7
#	~V	72.9
+	~V	85.0

Accent	Following Environment	Percent Absent
strong	V	19.4
weak	V	57.1
strong	~V	73.3
weak	~V	73.9

Accent	Preceding Consonant	Percent Absent
strong	obstruent	35.1
strong	sonorant	55.6
weak	obstruent	70.0
weak	sonorant	70.0

Preceding Consonant	Following Environment	Percent Absent
obstruent	V	25.2
sonorant	V	34.9
obstruent	~V	68.8
sonorant	~V	83.3

Preceding Consonant	Boundary	Percent Absent
obstruent	#	36.8
sonorant	#	59.1
obstruent	+	79.4
sonorant	+	75.7

the absence of strong accent and the boundary feature outrank the sonorance of the preceding consonant. The effect of accent and the effect of the formative boundary feature cannot be compared directly, but their effect when compared with the other constraints is about the same, especially when compared to the sonorance constraint. We will tentatively assign these two features the same rank. The final hierarchy of constraints, then, is:

(1) Deletable consonant preceded by another consonant;

(2) Deletable consonant not followed by a word beginning with a vowel;

(3) Boundary does not intervene between deletable consonant and preceding consonant;

(4a) Final and prefinal consonants separated by a formative boundary;

(4b) Syllable ending in the deletable consonant has weak accent;

(5) Deletable consonant is preceded by a sonorant consonant;

(6) Deletable consonant is preceded by a continuant consonant.

Assigning Greek capital letters in order of rank, the final form of the final stop deletion rule is:[36]

$$\begin{bmatrix} +\text{cons} \\ -\text{son} \\ -\text{cont} \\ -\text{strid} \\ <-\text{cor}> \end{bmatrix} \rightarrow (\emptyset) / \#\# \; X \; \Delta([-\text{acc}]) \; A \left(\begin{bmatrix} +\text{cons} \\ \{-\text{voc} \\ +\text{ant}\} \\ <-\text{voice}> \\ E(+\text{son}) \\ Z(+\text{cont}) \end{bmatrix} \right) \Gamma \sim \left(\begin{bmatrix} -\text{seg} \\ \Delta(+\text{FB}) \end{bmatrix} \right) __ \#\# \; B \sim \left(\begin{bmatrix} -\text{cons} \\ +\text{voc} \end{bmatrix} \right)$$

2.4 Absence of [id]

2.4.1 General remarks. When the -ed suffix follows [d] or [t], it takes the form [id]. Phonological processes described by Labov et al. (1968) and by Wolfram (1969) can explain the absence of the -ed suffix when it is the second member of a

final consonant cluster and when it is [d] following a vowel, but there are no known phonological rules to delete [ɨd]. Nevertheless, it was found that [ɨd] was absent in a considerable number of cases, although at a lower percentage rate than [t] or [d], whether in clusters or not. Since the evidence from irregular verbs indicates that past tense is an integral part of Black English, and since phonological rules for deleting [t] and [d] have been discovered, it is to be expected that phonological rather than grammatical rules can be discovered for [ɨd]-deletion.

2.4.2 Tentative rules. Finding the conditions under which the suffix could be absent was complicated. To begin with, it was not the case that [ɨd] was always either intact or completely absent. In a number of cases, the [d] was absent while the vowel was present, as in a word like separated [sɛpirɛ˞ɨ]. This was to be expected as a result of final [d]-deletion, to which we have already referred and which is described by Wolfram (1969:95-108). Absence of [d] seemed to follow the constraints discussed by Wolfram, and the devoiced variants noted by him ([t], [t̥], [tˀ], and [ˀ]) were all observed. The fact that the [d] can be deleted and the [ɨ] preserved suggests a solution that could account for a number of examples of complete absence of [ɨd]. Seven of these occur before vowels. While examples like [sɛpirɛ˞ɨ] for separated or I expected [ɨkspɛktɨ] are not rare when followed by a pause or by a word beginning with a consonant, there is only one clear example in which [d] is absent and [ɨ] is preserved when the next word begins with a vowel. It appears that when the final [d] is deleted, the remaining unaccented vowel is assimilated to the initial vowel of the following word. If such a process is assumed, seven examples which would otherwise be anomalous would be accounted for. A loose form of the rule is:

Rule 1. $i \rightarrow (\emptyset) \; / \; \left\{ \begin{matrix} d \\ t \end{matrix} \right\} __ \#\#V$

By the [d]-deletion rule and Rule 1, [ɛndɨd ʊp] (ended up) becomes [ɛnd ʊp] in the following way:

	ɛndɨd ʊp
[d]-deletion	ɛndɨ ʊp
Rule 1	ɛnd ʊp

In other cases, it appeared that [ɨ] had been deleted and [d] preserved. In such cases, the result would be either a [td] or a [dd] cluster. Such clusters are simplified; if the verb base ends in [t], [t] is assimilated to the following [d], as in [wɑnd] wanted. If the same process is involved when the verb base ends in [d], the result is also a single [d]. For example, if needed were to undergo such a process, the result would be as follows:

nidɨd
nidd
nid

This result would be indistinguishable from the result if the entire [ɨd] suffix were to be deleted by a single rule, or if [d] were deleted first and then [ɨ] by Rule 1. This suggests the attractive alternative that the whole problem could be solved if [ɨ] were allowed to be variably deletable in all environments and the resulting cluster simplified. Rule 1 could be dispensed with and a single operation set up to account for all [ɨd] absence. This solution demands that no verbal base that ends in [t] can occur in the past tense without the [ɨd] suffix unless the [t] is phonetically [d]. Wanted can appear as [wɑntɨd] or [wɑnd] but never as [wɑnt], and tooted as [t^hu^udɨd] or [t^hu^ud] but never as [t^hu^ut]. Our data show that this is true of all verb bases ending in [t], unless to follows. In these cases, it is clear that there is a devoicing assimilation to the [t^h] of to, a rule which is needed in any event.[36] An example is I just wanted to [want^{h}ɨ] have fun.

But a closer examination of the cases in which [ɨ] has been deleted and [d] preserved, or in which both segments have been deleted, reveals a number of peculiarities which would not be explained if all cases of [ɨd] absence were covered by [ɨ]-deletion and simplification of the resulting cluster. In the data there are fifty-three examples of [ɨd] absence to which Rule 1 could not apply. The most striking fact about these is that thirty-nine, 75 percent, involve the words want and start. Of the remaining fourteen, three involve sentences in which the tense reference is doubtful. Leaving these aside for the moment, it will be useful to examine the remaining eleven examples:

counted to [kʰaᵘntʰuᵘ] a hundred (09)
counted [kʰaᵘn·tʰ] from six to nine (72)

the car exploded [ɨspləᵘd] (63)
voted [vəᵘd] for myself (60)
decided to [sad·tʰi] go (40)
accumulated [əkʰyiᵘmyɨlᵉᵈd] some scars (26)

lasted [læs·] me about a year (88)
all of you all is arrested [ərᵉs] (58)
just selected [sɨlᵉk] officers (45)
busted the [bəstdɨ] stove (35)
acted [æk] like he was dead (83)

The examples have been divided into three groups. The first group, the two examples of the verb count, shares with the verb want the fact that it ends in the cluster [nt]. The second set of four verbs shares with the verb start (in its usual pronunciation [stat]) the fact that it ends in an alveolar stop preceded by a vowel. When [ɨd] is added, the [t] and [d] of the verbal base become [ď] in such words. The third set of verbs shares the feature that in standard English they would end in a cluster of obstruent plus alveolar stop. Our

analysis of [id] absence will have four main solutions. One is deletion via final [d]-deletion and Rule 1. The second is the solution which will ultimately apply to want and the first category in the above list. The third will apply to start and the second category in the list. The final solution will apply to the third category in the list.

2.4.3 Bases ending in a consonant cluster. It will be easiest to present the solution to the cases of verbs ending in a cluster of two consonants in standard English first. Although the evidence so far indicates that such final clusters are present in the underlying forms in Black English, there is some indication that in some cases the underlying form must be considered as having only the first obstruent of the expected cluster. Although no detailed study of this phenomenon has been undertaken, it appears that children are more likely than adults to evidence underlying forms with only one consonant, and that words rarely used in formal contexts (such as bust) are particularly susceptible to reanalysis of this kind. Of the five examples in the third group above, three were spoken by children and one of the two spoken by adults is the word bust.

One obvious solution is that for these speakers the verbal bases of these five verbs end, not in a consonant cluster, but in a single consonant -- the first member of the expected cluster. Put another way, the five verbs are treated as if they were spelled something like lassed, arressed, selecked, bussed, and acked, respectively. This being the case, the -ed suffix would be represented by [t], as actually appears in the case of bust. In the other four, the [t] has been removed by the final cluster simplification process.

Labov et al. (1968:131) suggest an alternative analysis for these cases which does not require reanalysis of the base

forms. They suggest that the underlying form of the -ed suffix is a single apical consonant and that the vowel [ɨ] is inserted epenthetically when the verb base ends in an apical consonant. If this vowel epenthesis rule follows the final stop deletion rule, then the original apical consonant in the verbal base will have been deleted at the point at which the epenthesis rule applies, and the verb will no longer meet the conditions for vowel epenthesis. As a result, the -ed suffix will form a consonant cluster in the usual way. Under this analysis, the standard English derivation for the word busted and the pronunciation given by speaker 35 would be derived as follows:

	Standard	Speaker 35
Underlying form:	##bəst#d##	##bəst#d##
Final stop deletion:		##bəs#d##
Vowel apenthesis:	##bəst#ɨd##	
Voicing agreement:		##bəs#t##
Surface form:	bəstɨd	bəst

Unless final stop deletion is somehow allowed to apply again, however, this analysis would not explain the remaining examples in which there is no final stop at all.

2.4.4 Bases ending in [nt]. We have seen that [nt] clusters are stable in Black English. The above solution, then, would not apply to the first two groups of verbs, which in any event, seem to behave differently from the obstruent clusters in that all six examples have an intact alveolar stop, while four of the five final alveolar stops in the putative obstruent clusters are absent. In the second place, one of these examples contains a long nasal consonant. These observations lead to the positing of a different phonetic process. First, the [nt] cluster is converted to [n̆] between the accented vowel of the verb phrase and the unaccented [ɨ] of the suffix by a well-known

rule of English pronunciation. Actual realization of this segment is attested in several examples of verbs in which the [id] is intact, such as wanted [wan̆id], painted [p^{h}e^{ɪ}n̆id], and pointed [p^{h}ɔ^{ɪ}n̆id]. These forms were found in the speech of the upper-class control sample as well as the working-class speakers. This rule effects the removal of [t] as a segment. We give the rule informally as:

Rule 2. nt → (n̆)/ V́ __ V̆

In the appropriate allegro style, what seems to take place next is the deletion of [i], with compensatory lengthening of the preceding nasal consonant. An informal version of this rule is:

Rule 3. n#i → (n·#)/ C_0[+syl]__d##

If the speech is even more rapid, the length feature is deleted. This rule is:

Rule 4. n· → (n)

These three rules account for the examples of want, but in the two cases of count, voiceless [t] is present in place of the expected [d]. In the first case, counted to a hundred, the devoicing is to be accounted for by a rule to be given later which assimilates a word-final [d] to the initial [t^{h}] of the word to. There are two possibilities for the absence of voicing in the other example. One is that the Black English rule for devoicing final obstruents has applied. The other is that it represents a "slip of the tongue" performance error. These three rules derive the cases of wanted a watch as spoken by speaker 85 and speaker 12 in the following way:

	(85)	(12)
	want#id###ə##wač##	want#id###ə##wač##
Rule 2	wan̆#id###ə##wač##	wan̆id###ə##wač##
Rule 3	wan·#d###ə##wač##	wan·#d###ə##wač##
Boundary deletion	wan·d ə wač	wand ə wač

2.4.5 Bases ending in an apical stop. For verbs which end in [t] or [d] preceded by a vowel, a different analysis is appropriate. There are two peculiarities which set these cases off from the ones analyzed above. The first is that the final [d] may be lengthened. In other words, it appears that the deletion of the reduced vowel is reflected in the following consonant rather than the preceding one. One example of this is:

started [stad·] praying to him (40)

In the second place, most of the examples of the verb start, when appearing before a gerundive nominal, have no final consonant at all; they are pronounced [sta].

The proper analysis of these examples is indicated by two further examples:

decided [sa^{i}d·] to go (40)

started to [sta^{i}di] put him in jail (72)

In both examples, it seems that the [ď] of the verbal base has been deleted, and that the [i] of the [id] suffix (represented in the phonetic transcription as [^{i}] has been reduced. In the case of decided, not only was the vowel [i] reduced, but the final [d] was lengthened. These two examples suggest that what is needed is a rule to delete [ď], and a subsequent rule deleting the vowel [i] with compensatory lengthening of the following [d]. Then a rule to remove the length is needed, since most examples do not have the long consonant.

The set of rules we need seems to be something like the following:

Rule 5. $\begin{Bmatrix} t \\ d \end{Bmatrix} \rightarrow (ď) / \acute{V}_\breve{V}$

Rule 6. $ď \rightarrow (\emptyset)$

Rule 7. $id \rightarrow (d\cdot) / \acute{V}\#_\#\#$ [37]

We now need a rule to eliminate the length of the final [d]. We already have a rule to shorten [n]. This rule will be

generalized to apply to all consonants, and will be ordered after Rule 7:

Rule 4′. $\begin{bmatrix}+\text{cons}\\+\text{lng}\end{bmatrix} \rightarrow ([-\text{lng}])$

This leaves us with the problem of the absence of even the remaining [d] in many examples of started. One solution would be to allow Rules 5, 6, 7, and 4′ to operate as outlined above and then allow the [d]-deletion rule to delete the remaining [d]. This would mean that Rule 1 would have to apply after Rule 4′, but this would be no particular problem. The difficulty is that in our data, [d] is deleted over 70 percent of the time from the verb start when it is followed by a gerundive. In Wolfram's data, final [d] is deleted by the lower-working-class in the most favorable environment only a little over 26 percent of the time. Furthermore, operation of Rules 5-7 and 4′ would leave the form [sta#d], which is the least favorable environment for [d]-deletion as it has been so far described. It could well be, however, that the environment required (following gerundive nominal construction) could be placed high on the hierarchy of constraints on the [d]-deletion rule and thus cause the surprisingly high number of instances of [d]-deletion from started.

The constraint itself is a rather strange one to have such an impact on a phonological rule. It seems possible that the gerundive nominal construction contributes to the accent pattern of the entire verb phrase and that it is this unique accent pattern that directly affects the [d]-deletion. In the absence of such an analysis, and to emphasize the fact that we are proposing an only partially satisfactory solution, we will write a second [d]-deletion rule and write the constraint as if it were a grammatical one:

Rule 8. $d \rightarrow (\emptyset)/[X\#__\#\#[\text{VERBing}]_N Y]_{VP}$

It may appear strange that started should be the only verb involved, and it may seem that the rule should be made to apply to this lexical item only. But when the restrictions on Rule 8 are considered, it turns out that very few English verbs can meet them. To meet these conditions, a verb base must either end in a vowel (since Rule 8 predicts that tried in cases like tried leaving early would sometimes become trie'), or be eligible to undergo Rules 5-7 and also take the gerundive construction. Few English verbs meet these requirements. It is certainly not surprising that start is the only *one* in our data.

2.4.6 Assimilations. It now remains to account for the assimilations involving the [t^h] of to. There are cases in the data of this [t^h] being assimilated to the [d] of [id] as well as the reverse. There is some evidence that the assimilation of [d] to [t^h] occurs in a more allegro style than the opposite assimilation. When [d] assimilates to [t^h], the duration of the vowel of a verb like want is generally shorter than when [t^h] assimilates to [d]. Perhaps more diagnostic is the fact that there are numerous cases of the [t^h] of to assimilating to the [d] of [id] even when [i] is not deleted, but there are no examples of the reverse. The following array of occurring and nonoccurring types are to be observed:

wanted to [wan̆idi] be (31)
wanted to [wandi] see (61)
wanted to [want^{h}i] study (11)
*wanted to [wan̆it^{h}i] VERB [38]

As far as our data are concerned, these two facts work together with the shortening of prefinal nasal consonants to set off a graded series of styles in the following manner:

Style 1: wanted to [wan̆idt^{h}i]
Style 2: wanted to [wan̆idi]

Style 3: wanted to [wan·di]

Style 4: wanted to [wandi]

Style 5: wanted to [want^{h}i]

There are no examples of a long nasal and assimilated [d] in the same verb phrase.

The informal versions of the two assimilation rules are:

Rule 9. $t^{h} \rightarrow (d) / d\#\#\left[\begin{matrix}__ \\ TO\end{matrix}\right]$

Rule 10. $d \rightarrow (t) / \#__\#\#\ TO$

The operation of either of these rules results in a geminate cluster of alveolar stops. We will assume that English has a very general rule to simplify clusters of geminate consonants and that it applies after Rules 9 and 10. An informal version of that rule is:

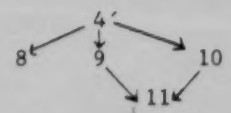
Rule 11. $\begin{bmatrix}+cons \\ \alpha cor \\ \beta ant \\ . \\ . \\ .\end{bmatrix} \rightarrow \emptyset / __ \begin{bmatrix}+cons \\ \alpha cor \\ \beta ant \\ . \\ . \\ .\end{bmatrix}$

Rule 11, as it is written, will not apply to the sequences generated by Rules 9 and 10, namely [d##d] and [t##t]. It seems reasonable to suggest that perhaps the allegro styles in which Rules 9 and 10 operate involve the deletion of word boundaries. This means that the word boundaries which would block the operation of Rule 11 in the case of Ved to sequences in more lento styles are not present in situations in which Rules 9 and 10 apply, so that Rule 11 will apply in the form given. We are in no position to make explicit just how the boundary deletion works. Our assumptions give the correct answers as far as our data are concerned, however.

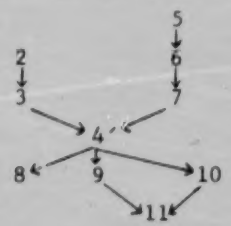
2.4.7 Rule order. It remains to put the rules together in their correct order. Rule 4′, which shortens long consonants, is pivotal in the set. There are two sources for the long

consonants which are shortened by Rule 4′: the long [n] generated by Rule 3 and the long [d] generated by Rule 7. Rule 2, which creates flapped [n] from [nt] clusters, must precede Rule 3. Rule 7 is designed to operate after the deletion of [ɗ] by Rule 6, which in turn must follow the creation of [ɗ] by Rule 5. For these reasons, Rules 2 through 7 above are effectively ordered in the following manner:

Rule 8, which in its present form operates on started only when it has been reduced to [stad], is designed to follow all the reduction rules and so must follow Rule 4′. The two rules for the assimilation of [d] and [t] before to are much simpler if they are allowed to apply to the result of the reduction of [id]. These two rules also must follow Rule 4′. Rule 11, as we have already pointed out, reduces the geminate clusters created by Rules 9 and 10. The last four rules are ordered with respect to Rule 4′ in the following manner:



Rule 1 is completely independent of the other 10. The effective ordering of Rules 2 through 11 is as follows:



Rule 1 can be inserted anywhere in this set and any other ordering beyond that specified above is arbitrary. We will simply list the rules in the order in which they were presented, except for Rule 4′, which now follows Rule 7. With this one change, the ordering constraints in the above chart will be met.[39]

Old No.	New No.	Name	Rule
1	1	[ɨ]-assimilation	$ɨ \rightarrow (\emptyset) / D__\#\#\acute{V}$
2	2	flap n	$nt \rightarrow (\breve{n}) / \acute{V}__\breve{V}$
3	3	[ɨ]-deletion ([n]-lengthening)	$n\#ɨ \rightarrow (n\cdot\#) / C_0[+syl]__d\#\#$
5	4	flap d	$\begin{matrix}t\\d\end{matrix} \rightarrow (\breve{d}) / \acute{V}__\breve{V}$
6	5	[ď]-deletion	$\breve{d} \rightarrow (\emptyset)$
7	6	[ɨ]-deletion ([d]-lengthening)	$ɨd \rightarrow (d\cdot) / \acute{V}\#__\#\#$
4	7	consonant shortening	$\begin{bmatrix}+cons\\+lng\end{bmatrix} \rightarrow ([-lng])$
8	8	2nd [d]-deletion	$d \rightarrow (\emptyset) / [X\#__\#\#[VERBing]_N Y]_{VP}$
9	9	[t^h]-assimilation	$t^h \rightarrow (d) / d\#\#\begin{bmatrix}__\\TO\end{bmatrix}$
10	10	[d]-assimilation	$d \rightarrow (t) / \#__\#TO$
11	11	geminate cluster reduction	$\begin{bmatrix}+cons\\\alpha cor\\\beta ant\\.\\.\\.\end{bmatrix} \rightarrow \emptyset / \begin{bmatrix}+cons\\\alpha cor\\\beta ant\\.\\.\\.\end{bmatrix}$

2.4.8 Sample derivations. The following sample derivations will help clarify how the rules operate:

wanted to [wanǐdi] know (56)

Underlying form:	##want#id##t^{h}i##
Rule	Form
1	does not apply
2	##wanǐ#id##t^{h}i##
3	is not applied
4-8	do not apply
9	##wanǐ#id##di##
10	does not apply
11	##wanǐdi##

wanted a [wan·də] watch (85)

Underlying form:	##want#id##ə##
Rule	Form
1	does not apply
2	##wanǐ#id##ə##
3	##wan·#d##ə##
4-6	do not apply
7	is not applied
8-11	do not apply

wanted [wand] it (45)

Underlying form:	##want#id##
Rule	Form
1	does not apply
2	##wanǐ#id##
3	##wan·#d##
4-6	do not apply
7	##wan#d##
8-11	do not apply

wanted to [wan·di] be (25)

Underlying form:	##want#id##t^{h}i##
Rule	Form
1	does not apply

2	##wan̆#id##t^{h}i##
3	##wan·#d##t^{h}i##
4-6	do not apply
7	is not applied
8	does not apply
9	##wan·#d##di##
10	does not apply
11	##wan·#di##

wanted to [wandi] take (90)

Underlying form:	##want#id##t^{h}i##
Rule	Form
1	does not apply
2	##wan̆#id##t^{h}i##
3	##wan·#d##t^{h}i##
4-6	do not apply
7	##wan#d##t^{h}i##
8	does not apply
9	##wan#d##di##
10	does not apply
11	##wan#di##

wanted to [want^{h}i] go (83)

Underlying form:	#want#id##t^{h}i##
Rule	Form
1	does not apply
2	##wan̆#id##t^{h}i##
3	##wan·#d##t^{h}i##
4-6	do not apply
7	##wan#d##t^{h}i##
8	does not apply
9	is not applied
10	##wan#t##t^{h}i##
11	##wan#t^{h}i##

decided to [sad·tʰɨ] go (40)

Underlying form:	##sad#id##tʰɨ##
Rule	Form
1-3	do not apply
4	##sad̆#id##tʰɨ##
5	##sa#id##tʰɨ##
6	##sa#d·##tʰɨ##
7	is not applied
8	does not apply
9-10	are *not* applied
11	does not apply

started [stad] telling (89)

Underlying form:	##stat#id##
Rule	Form
1-3	do not apply
4	##stad̆#id##
5	##sta#id##
6	##sta#d·##
7	##stad##
8	does not apply
9-10	are not applied
11	does not apply

started [sta] carrying (84)

Underlying form:	##stat#id##
Rule	Form
1-3	do not apply
4	##stad̆#id##
5	##sta#id##
6	##sta#d·##
7	##sta#d##
8	##sta##
9-11	do not apply

The following derivation involves Rule 1:
decided on [dɪsad̆ɔn] (45)

Underlying form:	##dɪsad#ɪd##ɔn##
1st [d]-deletion	##dɪsad#ɪ##ɔn##
1	##dɪsad##ɔn##
2-3	do not apply
4	##dɪsad̆##ɔn## [41]
5	is not applied
6-11	do not apply

2.4.9 Residual cases. The rules illustrated above will account for virtually all cases of [ɪd] absence. There are, however, three cases in which the tense reference was doubtful. In one case, it is not clear how the phonetic sequence is to be divided into words. The first sentence, in context, is:

We just started this club, this little small club.
And Wednesday, we [sɪlᵉktˀɪˀɔfɪsrz]. (45)

It is unclear whether this phonetic sequence should be interpreted as selected officers or select the officers. If it is the second, then it is an example of [ɪd] absence.

The second example is:

She didn't seem to understand me. Therefore, we [stɑ:]
hollering and fighting. (01)

This could be interpreted as started hollering, with [ɪd] absence, or as we'd start hollering, with 'd deleted by another process. Neither example is crucial, however, since even if they actually are examples of [ɪd] absence, they would fit explanations already given.

The third example is:

A man had a bombis and aks Salt and Pepper they
[waŋgəᵁ] for a ride in the car. (63)

This sentence is aberrant from the grammar rules of Black English, as well as the phonological rules in this section. The

correct embedded question would be either aks Salt and Pepper did they want to go, or (possibly) if they wanted to go. It seems reasonable to regard this whole sentence as involving performance errors.

2.5 Summary. After careful investigation of the phenomenon of -ed absence in the Washington, D.C. data, it is clear that past tense is indeed a category in the grammar of Black English. It is rare for nonstandard past tense forms to be used with irregular verbs. The alternants [t] and [d] can be variably removed by the final stop deletion rule, and [id] can be deleted variably in both Black English and standard English by the series of rules discussed in section 2.4.

NOTES

1. These two and many other irregular verbs distinguish the simple past from the past participle (e.g. give-gave-given; fall-fell-fallen). Due to the fact that relatively few such verbs exist in English and also that the past participle was moderately infrequent in the interviews, there is no analysis of differences between past and past participle. Indeed it is an outstanding question as to whether such a distinction actually exists in Black English.

2. The forms of be are not here analyzed in connection with past tense.

3. Common verbs like know, come, and give were sometimes used without the appropriate vowel change to mark past tense, but other common irregular verbs like have, get, make, go, and do were used in the past tense in almost every interview and always in their standard forms.

4. If this use of know is characteristic of the speech of some speakers and not simply an accident of the small size of the sample, the analysis would be interesting, in that in standard English only verbs ending in t or d belong in the put class.

5. These two linguists differ as to their analysis of the nature of [d]-deletion, however. For Labov, it is part of the "t,d deletion rule", which deletes final [t], as well as both [d] and [t] after consonants. For Wolfram, the deletion of [d] after vowels does not apply to [t] and is distinct from the deletion of both [d] and [t] after consonants. We shall present this difference of analysis in considerable detail later.

6. Possibly there are differences in deletability among the nonpast tense uses of -ed, but there were not enough data in our sample to show this.

7. This fact would appear to trivialize the notion of hierarchical ordering for such rules, since two constraints logically have to be ordered in one way or the other. It must be kept in mind, however, that the order of two constraints has often been shown for separate but comparable populations. For an example, see Wolfram (1969:62-74), where the presence or absence of a following consonant and the morphemic status of the deletable consonant were ordered in the same way for each of four social classes as constraints on final consonant cluster simplfication.

8. Since none of Wolfram's examples contained [d] representing -ed, the grammatical function constraint was irrelevant.

9. No doubt this means that the presence of the morpheme boundary # between the final [d] and the rest of the word is a constraint on deletion which would fit into the hierarchy somewhere.

10. Labov 1966b. In more recent publications, Labov seems to have abandoned the concept and is now accounting for variability in terms of variable rules.

11. Labov et al. (1968:131) speak of the devoicing of final [d], its merger with [t], and subsequent deletion, presumably by the "t,d deletion rule".

12. As Wolfram himself pointed out (1969:95).

13. There is a tendency for final obstruents to be very briefly voiced or devoiced in white dialects of English as well, but the impression which most linguists who have worked on Black English have is that Black English devoicing is qualitatively different. For discussion of another dimension of differences between black and white devoicing, see Wolfram (1970b:10,11).

14. But cf. Wolfram, loc. cit. Cases in which other final voiced obstruents have been deleted can be observed, but at such reduced frequency that they are best considered errors in performance.

15. Wolfram (personal communication) tabulated only those cases of final [d] which were not followed by a word beginning with a vowel (i.e. the most favorable environment for devoicing) so that his percentages of devoicing would be high enough to give as clear a picture as possible of the effect of stress.

16. It is unfortunate that Wolfram (1969:73) used examples of named in his refutation of Loflin's (1970) erroneous claim that -ed cannot be absent in derived adjectives modifying nouns. There is no such restriction on -ed absence, even when named is not involved, as the following two examples, and many others, show:
    they was a improved [ɱpʰruʷv] ball club (25)
    and Luke, he ate fifty boiled [bɔ>l] eggs (18)

17. By writing one rule to delete [t] and [d] and another to delete the final members of [sp], [st], and [sk] clusters, Labov implicitly guarantees that the second members of the clusters reduced by these rules will be nonstrident stops.

18. Apparently, since he treats the absence of final [d] in a separate section of his chapter on phonological variables. Wolfram would not consider the absence of final consonants in either case a phonological "proces", since for him both are to be accounted for by the "realization rules" of stratificational phonology.

19. The phonetic transcriptions in this section are Bailey's. In his usage, // // stands for the lexical representation, / / is used for intermediate representations between the lexical and the phonetic representations, and [ ] is used for phonetic representations.

20. Specifically, in Southern States English (Black English is in many respects a Southern States speech variety, of course), laterals are consonantal after a vowel in the same syllable only if the vowel is one of the back rounded vowels [ʉʷ, oʷ, ɔ, ɒ̟, æ̟, ɨ̈ʷ, ʊ̈ʷ] as in tool, stole, ball, (alternate pronunciation), cowl, gule, and mule, but is not consonantal in accrual, bestowal, withdrawal, newel, fuel, or towel ['thæ̟ɨ] or ['thæ̟wɨ]).

21. Voiceless laterals seem not to create clusters, even if they are non-nuclear, e.g. Milton ['mɪɬ:tn̩] (cf. London) and voltage ['vo^{u}ldɪd^{ʒ}], with a voiced non-nuclear lateral.

22. Contrary to Labov's results, Wolfram's data show an even more pronounced tendency for the following environment constraint to outrank the intervening morpheme boundary constraint in the middle classes than in the working classes.

23. We will call the sonorants and spirants, which are produced with a continuing airstream mechanism, "sustained" for the time being, in contrast to the use of "continuant" in the literature on generative phonology. In generative phonology, "continuant" refers only to those consonants which are produced without obstruction in the oral cavity. Thus, in generative phonological descriptions, spirants are continuant, nasals are not, and there is often disagreement about the assignment of the feature "continuant" to liquids. For the time being we will use the term "sustained" to designate consonants in which the airstream is not totally obstructed. That is, sustained consonants in our usage include all sonorants and spirants, but exclude stops.

24. He did not tabulate absence after stops in monomorphemic clusters because there were too few examples. A moment's reflection will convince the reader that there are very few such words in the English language.

25. But, as Bailey points out (see above) if cluster simplification is a late rule, both [l] and [t] are voiceless.

26. If Bailey (above) is correct, Question 2 is ill-formulated.

27. The speech behavior of some of the Washington speakers seems to indicate that they have a morpheme structure condition which forbids final clusters consisting of [s] plus voiceless stop. For these speakers, simplification would appear categorical in this environment simply because there is no final consonant to delete. But this would have nothing to do with the form of the deletion rule.

28. Or by Bailey's suggestion that nasals are deleted and that liquids are nuclear (vocalic) in these environments.

29. This constraint will not be presented in our version of the rule because: (1) the data on interhomorganic -ed

were not consistently extracted; and (2) there seem to be troublesome problems in defining the notion "homorganic" precisely for the purposes of stating this constraint.

30. If further research shows that [t] is not systematically deletable after vowels and voiced consonants, our conclusions would very likely be reversed. With such results, the more attractive solution would be: (1) a separate rule for the deletion of [d] and only [d] after vowels; (2) the imposition of the voicing agreement constraint on the cluster reduction rule, with concomitant elimination of the exceptional status of [sp] and [sk] simplification; and (3) the treatment of bulb as an idiosyncratic exception. Acceptance of Bailey's solution would involve a major revision of what is to be considered a consonant cluster, the elimination of the voicing agreement constraint, and would not require any special considerations for the word bulb.

31. Wolfram (1969:111) found that syllabic [r] (which he identifies as [r] following a central vowel) in stressed syllables was much less frequently absent than was nonsyllabic [r] or syllabic [r] in unstressed syllables. Most of the examples of syllabic [r] in the data under discussion were in stressed syllables.

32. A third boundary, =, has the features [-seg, -FB, -WB].

33. We will ignore the constraint concerning the function of the -ed suffix, which proved statistically significant only when the final consonant was single [d].

34. The second aberration is not serious, since only two examples were involved. The first one is more serious, since one would expect fourteen examples to be sufficient to begin to show a pattern. However, the only irregular verb (with + rather than #) ending in a stop + stop cluster is kept, and a large number of the fourteen examples are instances of the phrase kept on which is usually pronounced [kɛpan].

35. This is a relatively cautious form of the rule. A less cautious version, in which we assume that [r] is a glide, that only consonants which are the final members of consonant clusters may be deleted by this rule, and that the

voicing agreement constraint holds, would be:

$$\begin{bmatrix}+\text{cons}\\-\text{son}\\-\text{cont}\\\alpha\text{voice}\end{bmatrix} \rightarrow (\emptyset) / \#\#\ X\ \Gamma\ ([-\text{acc}])\ \begin{bmatrix}+\text{cons}\\\alpha\text{voice}\\\Delta(+\text{son})\\E(+\text{cont})\end{bmatrix}\ B \sim \left(\begin{bmatrix}-\text{seg}\\\Gamma(+\text{FB})\end{bmatrix}\right)__\#\#\ A \sim \left(\begin{bmatrix}-\text{cons}\\+\text{voc}\end{bmatrix}\right)$$

36. There is one counterexample, He counted [kʰaʊn·tⁿ] from six to nine, in which the final [t] is not voiced, but this could be considered a real error in pronunciation. Actually, this example will contribute in a crucial way to a more comprehensive understanding of [ɨd] absence than is being suggested in this paragraph.

37. For ease of exposition, we will ignore the refinement about the further reduction of [ɨ].

38. There are a few cases of wanted to as [wanɨtˀtʰɨ], but the presence of two segments (including devoiced [d] from [ɨd]) is clear in all of them. Nevertheless, perhaps too much importance should not be attached to this gap in our data, which may well be accidental.

39. There are not enough data to allow a determination of variable constraints in the variable rules in this set.

40. "Underlying form" is used here, somewhat loosely, to mean "phonological shape before this set of rules applies".

41. It is possible that the correct analysis would have Rule 1 ordered before Rule 4 so that [d] would be converted into a flap [ɗ] between [a] and [ɨ] instead of between [a] and the [ɔ] of [ɔn]. I have not been able to think of a reason for preferring one analysis over the other.

3 PRESENT TENSE

3.0 General remarks. As the past tense (and certain other grammatical functions) are marked by the -ed suffix, the present tense is marked by the suffix -s, but only if the subject of the verb involved is third person singular. The standard English form of the verb come, for example, is comes, if the subject is a singular noun or one of the pronouns he, she or it. In Black English this present tense suffix, like the -ed suffix, is frequently absent, contributing to speculation that Black English may lack the tense specifications of the standard dialects. We have already seen that the evidence concerning the absence of -ed overwhelmingly supports the conclusion that the grammatical distinction is present in Black English, but the phonetic representations of the suffix may be removed by phonological rules. We will find, as have the two previous studies (Labov et al. 1968, Wolfram 1969), that the evidence concerning -s leads to the opposite conclusion, viz. that the absence of this suffix has its explanation in the grammar of the dialect. Even for speakers who never use -s, however, it is difficult to conclude that there is the lack of a grammatical distinction in their dialect, since present tense -s is completely redundant in standard English. No suffix marks the present tense forms of standard English verbs when the subject is a plural noun or one of the pronouns I, you, we, or they. The absence of this -s in Black English has the effect of regularizing the irregular standard

English paradigm for present tense verbs. The irregular standard English pattern for come, for example, is:

I come	we come
you come	you come
he, she, it, the man comes	they, the men come

The Black English pattern, for those speakers who do not use -s variably, is more regular:

I come	we come
you come	you come
he, she, it, the man come	they, the men come

In Black English it is merely the case that the grammatical distinction need not be marked by inflection.

In examining the data from the Washington speakers, it was found that the presence or absence of the suffix was reasonably easy to determine. Of 655 examples, only 16 had to be rejected as indeterminate, most of them because it was suspected that they were not present tense verbs at all. Occasionally, constructions of would plus a verb undergo the removal of would via contraction to 'd and deletion of 'd. For example, the sentence They used to talk about him like a dog because he come to school with the same suit on (86) was not tabulated because the speaker may well have intended he'd come to school. Of the remaining 639 examples, the suffix was absent in the speech of the working-class speakers 417 times, or 65.3 percent.

3.1 Irregular verbs. There are four verbs in standard English (aside from the modals) for which the third person singular present tense is not formed simply by adding -s. These are be, have, do, and say, for which the forms are is (not bes), has (not haves), does (not dos), and says ([sɛz], not [sɛˈz]). Be has suppletive present tense forms which behave entirely differently from other verbs in English, so be was

not tabulated.[1] Have and do, however, show the same lack of inflection as do the more regular verbs, giving sentences like He have a bicycle and He do strange things.[2] The hypothesis was entertained that the standard forms of these two verbs would be easier to learn than the standard forms of regular verbs, since has and does are more distinct from have and do than walks is from walk, for example. Table 23 gives the results of the comparison of have with regular verbs.

Table 23. Comparison of the absence of third person singular present tense -s with have and with regular verbs.

	Have	Regular Verbs
Present	16	195
Absent	18	363
Percent absent	52.9	65.1

There is a tendency for -s to be absent less with have, but the difference is not statistically significant.

When do was analyzed, it was discovered that the presence of the contracted form of not (i.e. don't or doesn't) seemed to be the major factor influencing the absence of -s. The negative forms were much more frequently used without -s than were the affirmative forms. At this point we must bring up two additional facts. First, both have and do serve as either auxiliary verbs or as main verbs. Second, the forms don't and doesn't are only possible when do is functioning as an auxiliary verb. These facts suggest that the presence of not may be irrelevant and that -s may be absent more often when the verb is serving in its auxiliary function. Positive forms of do used as main verbs show -s absence somewhat less frequently than when used as auxiliaries. With have, the opposite is true; the form has is used more often when the verb is an auxiliary

than when it is a main verb. These results are not to be taken seriously, however, since there are only nineteen examples of positive *do* forms and only thirty-four *have* forms in our sample. Whatever the explanation, there is a great deal more *-s* absence with negative *do* forms than with regular verbs (see Table 24).

Table 24. Comparison of the absence of third person singular present tense *-s* with negative *do* forms and with regular verbs.

	Don't/Doesn't	Regular Verbs
Present	4	195
Absent	24	363
Percent absent	87.5	65.1

The difference is significant at only the .05 level of confidence ($X^2 = 4.20$), which is judged not adequate for determining linguistic constraints. The positive *do* forms, on the other hand, showed *-s* absence somewhat less often than the regular verbs: 63.2 to 65.1 percent.

The occurrences of *have* and *don't/doesn't* were excluded from tabulations based on the phonological characteristics of the present tense verbs. The change from *have* to *has* makes it difficult to tabulate on the basis of the phonological shape of the verbal base. Is it valid, for example, to consider *ha-* the base of *has*? If so, then why is the form *have* observed, not *ha*, when *-s* is absent? Such considerations make it impossible to characterize *have* in the present tense as a verb base ending in a vowel or a consonant. The examples of *don't/doesn't* were omitted for fear that their inclusion would introduce a skewing factor into some of the categories. *Do/does*, on the other hand, was included. The absence of *-s* in this case is virtually as frequent as with regular verbs. Further-

more, the vowel change in the standard form, [u˙] to [ə], does not involve a change in any of the phonological characteristics we are interested in.

3.2 Phonetic alternants. Analogous to the [ɨd], [d], and [t] forms of -ed, the -s present tense suffix (as well as other -s suffixes in English) has [ɨz], [z], and [s] pronunciations, depending on the phonological features of the final segment of the base word. The [ɨz] form occurs following strident consonants, the [z] form follows nonstrident voiced segments (including all vowels), and the [s] form follows nonstrident voiceless consonants.[3] Our analysis of -ed showed that the suffix was absent much less frequently if the expected form was [ɨd]. In the case of -s, it was found that the [ɨz] form was absent slightly more often than the other two pronunciations, but certainly not significantly so (see Table 25).[4]

Table 25. Comparison of the absence of [ɨz] and [s] or [z] representing the third person singular present tense suffix.

	[ɨz]	[s],[z]
Present	11	191
Absent	25	350
Percent absent	69.4	64.7

3.3 Phonological environments

3.3.1 Preceding environment. Whether the preceding segment was a vowel or a consonant had a significant effect on the absence of -ed, but no such effect was discernible in the case of -s absence. Following a vowel, the suffix was absent in 63.9 percent of 144 examples. When a nonstrident consonant preceded, 65.0 percent of 397 examples showed -s absence, a

statistically negligible difference. The possibility that voicing of the preceding segment (and hence the voicing of the segment representing -s as well) might influence the frequency of -s absence was also investigated, with the same result: the suffix was absent after voiced segments in 64.3 percent of the cases; after voiceless segments the percentage was 65.4.

3.3.2 Following environment. The effect of the following phonological environment was also investigated. In this case, the tabulations were done so as to be maximally comparable to the tabulations done by Labov et al. (1968) and Wolfram (1969). Labov investigated the absence of several kinds of s finals in English, including monomorphemic examples (box, else), plurals (pots, fishes), adverbs (sometimes) and possessives (John's), as well as present tense examples. Since his corpus apparently included relatively few cases of s following a vowel, most of the figures presented deal with clusters of consonants plus [s] or [z] (the [iz] pronunciation is not dealt with). In the speech of the adolescents and preadolescents in Harlem, s after a consonant was absent much less frequently when the next word began with a vowel than when it began with a consonant, but this pattern did not hold for the present tense suffix, where a following vowel appeared to favor its absence.[5] Labov's working-class adult speakers from the North show the inhibiting effect of a following vowel, even with the present tense -s. The working-class adults from the South in his sample show the reverse effect, as do the Harlem adolescents and preadolescents. Labov is hard-pressed to explain the results with the present tense suffix and the explanation he offers (Labov et al. 1968: 172-3) is not very satisfactory.

The absence of present tense -s after consonants was tabulated for the Washington speakers for the effect of the following segment, and only the slightest of differences was found.

When a consonant followed, -s was absent 65.5 percent of the time, and when a vowel followed, the suffix was absent in 64.2 percent of the cases. To find the group most comparable to Labov's adolescent and preadolescent speakers, we selected all the male 10-12-year-old children and 14-19-year-old adolescents for separate analysis to see if a following vowel appeared to favor -s absence in their speech. These speakers correspond most closely to Labov's "lames" (i.e. not members of peer groups) in style B (individual interviews). In Labov's sample, these "lames" showed the same pattern of -s absence before vowels as the peer group members did. The Washington male adolescents and preadolescents, however, showed a distinct tendency in the opposite direction. Table 26 shows the contrast between the New York and Washington "lames".

Table 26. Percentage of third person singular present tense -s absence in the speech of Washington male adolescents and preadolescents and New York "lames" in style B; by following environment.

	__C	__V
Washington	77%	63%
New York	56%	64%

3.3.3 Absence of hierarchy. Wolfram (1969:136-7) noted that the patterned hierarchy between preceding and following environments which is typical for phonological constraints is totally absent in the case of verb concord -s. Table 27 displays a comparison of the Detroit and Washington speakers by preceding and following environments. The data from neither city admits of hierarchical arrangement. The striking thing about both sets of data is that the highest percentages occur following a vowel and preceding a consonant; while the lowest percentages occur following a vowel and preceding a vowel. In

Washington, the disparity in the frequency between these two environments is remarkable. This result could be charged to a peculiarity in the samples, but this is a little more difficult to do with the agreement in the data from the two cities. We have no explanation for this result, but can only point out that the hierarchical pattern we found so consistantly in our investigation of -ed is absent here.

Table 27. Percentage of third person singular present tense -s absence in Detroit and Washington; by preceding and following environments.

	C__##C	C__##V	V__##C	V__##V
Detroit	62.4%	67.4%	72.2%	61.8%
Washington	65.5%	64.2%	72.9%	50.8%

3.4 Nonphonological factors

3.4.1 Collective subjects. The Washington data show that the absence of present tense -s is not controlled by any of the most likely phonetic factors and reconfirms the conclusions of Labov and Wolfram that the absence of the suffix has a grammatical rather than a phonological explanation. The data were further analyzed to determine if other, nonphonological constraints had an effect on absence. There are certain words in English which are gramatically third person singular nouns but which logically refer to a number of individuals. Such words as group, team, everybody take the -s suffix in standard English in spite of the fact that their actual referents are sets of more than one. It seemed reasonable that some Black English speakers might treat these words as plural nouns because of their multiple referents, which would mean that they would not require -s in the present tense. If this were the case, the effect would be that present tense verbs with collective third

person subjects would manifest significantly less -s presence than verbs with noncollective subjects. The data, however, failed to support this hypothesis, as Table 28 shows.

Table 28. Comparison of third person singular present tense -s absence with collective noun and noncollective noun subjects.

	Collective subject	Noncollective subject
Present	12	210
Absent	20	397
Percent absent	62.5	65.4

There was slightly less -s presence when the subject was collective, and the difference is clearly not statistically significant.

3.4.2 Conjoined verbs. Another possible constraint suggested itself when the reading passage data were analyzed. Two occurrences of present tense verbs with third person singular subjects were in the sentence So she makes us sit down and tells us not to talk. Twenty-four of the working-class speakers read this sentence without skipping part of it or misreading anything.[6] Fully half of them read it as she makes us sit down and tell us. The pattern was so prevalent and explanations based on phonological factors so unlikely that we considered the possibility that there may be a constraint on the second member of a co-joined verb phrase. The "-s and -Ø" pattern was not nearly so common in narrative style, however. Of the thirty-four sentences in the data, only nine examples had suffixed verbs first and unsuffixed verbs second. The remaining twenty-five examples had either both verbs unsuffixed or both verbs suffixed. This was true of the makes and tells

readings in reading style as well. The results are given in Table 29.

Table 29. Comparison of third person singular present tense -s absence in conjoined verb phrases; in narrative and reading styles.

	-s & -s	-Ø & -Ø	-s & Ø	Ø & -s
Narrative style	9	16	9	0
Reading style	10	2	12	0

These results seem to indicate less a linguistic constraint than the rapid onset of a fatigue factor. Let us assume, as independent evidence suggests, that the absence of -s in Black English is not only grammatically explainable, but due to the fact that for many speakers the suffix is not a part of the dialect at all. If this is the case, then when the suffix actually is used, it must be due to a conscious effort to speak on the basis of a "foreign" grammar rule. All but two of the readers did suffix at least the first verb under the pressure of reading aloud for our interviewers, but half of them were unable to follow the noninherent rule throughout the entire verb phrase, giving the "-s and Ø" pattern. In narrative style, with less pressure to conform to the standard English norm, most speakers followed the proper Black English rule and did not suffix either verb. In nine cases, speakers used standard English forms for both verbs, and in another nine they succumbed to fatigue between the two conjoined verbs. But in neither style did anyone insert -s with the second verb after having used the first verb without it. In other words, while several speakers reverted to the Black English rule after having begun with the standard English rule, especially in the

more formal style, none moved to the standard English rule after having begun with Black English grammar. This fact may reasonably be interpreted as an interesting bit of supporting evidence for the conclusion that the -s suffix for present tense verbs is simply not a part of the competence of many Black English speakers.

3.5 Hypercorrection. Another phenomenon in connection with present tense -s, cited by both Labov and Wolfram as evidence that -s is not part of the grammar of Black English, was also observed in the Washington data. This is the tendency toward hypercorrection, or use of -s with verbs whose subjects are not third person singular and even, in a few cases, with non-finite verbs. Some examples:

I watches that just about every week (82)
You just fails for that day (10)
Most of the time we goes out on Easter (06)
These syndicates wants him to turn it over to them (73)
They made a deal to hijacks this cargo train (83)
You keep on playing until the last one is caughts (87)

This is precisely the behavior one would expect if the third person concord rule is foreign to speakers of Black English. If -s as a verbal suffix is not part of the dialect, Black English speakers cannot be expected to respond to the restriction that limits its use to cases in which the subject is in the third person singular. When coming in contact with a socially favored standard dialect, Black English speakers would observe that the -s suffix is used by standard speakers as a verbal suffix. At first, however, many of them may not observe the restriction as regards the person and number of the subject, or even that the suffix is used only with finite verbs. As a result, when shifting toward standard English, some Black English speakers might be expected to use -s with

present tense verbs when the subject is not third person singular or even when the verb is not finite. And this, of course, is exactly what was observed, not only in Washington, but in New York and Detroit as well.

Wolfram (1969:139) states that the use of verbal -s by speakers of Black English will be found to be more frequent the closer one comes to the appropriate standard English constraints. The most frequent usage is with present tense verbs and third person singular subjects. The next most frequent usage is with present tense verbs with third person plural subjects. Third most frequent is its use with present tense verbs with nonthird person subjects, and least frequent is its usage with verbs which are not finite. Wolfram's conclusions about the most frequent and least frequent usage can hardly be disputed: -s usage in the Washington data was overwhelmingly with present tense verbs with third person singular subjects, and the use of -s with nonfinite verbs is extremely rare; the two examples cited above were the only ones found. Whether or not our data would support Wolfram as to the frequency with third person plural subjects compared with nonthird person subjects required explicit investigation. For each speaker who used hyper-s, we tabulated twenty instances of present tense verbs with other than third person singular subjects, whether or not hyper-s was used with them. In this way, there were twenty examples of potential hypercorrections for these speakers, matching the goal of twenty examples for all speakers of the potentially appropriate use of -s. In terms of pure frequency, there was almost no difference between the use of hyper-s with third person plural and nonthird person subjects; in fact, it was slightly more frequent with nonthird person subjects. But in terms of numbers of speakers, Wolfram's conclusions tended to be borne out. Five speakers used hyper-s with third person plural subjects, two with verbs with first

person singular subjects, two with verbs with second person subjects, and only one with first person plural subjects. Furthermore, the use of hyper-s with nonthird person subjects tended to imply its use with third person plural subjects. Only one speaker used hyper-s with a nonthird person subject without also using it with third person plural subjects.

It has sometimes appeared to standard English speaking observers of Black English that its grammar calls for the opposite use of -s from that specified by standard English grammar. That is, it appears that -s is not used with third person singular subjects, but is to be expected with all other subjects. Our data, like those of Wolfram (1969:139), shows that the use of -s with verbs which do not have third person singular subjects is much less frequent than its nonuse with third person singular subjects. As we have seen, -s was absent from 65.3 percent of all present tense verbs with third person singular subjects. It was present with only 13.4 percent of the 142 verbs with subjects of other persons and number in the speech of those who used hyper-s at least once. With regard to numbers of speakers, the difference is even more striking. Of the forty-seven speakers in the sample, forty-four showed at least some absence with third person subjects. Only six used hyper-s with any type of nonthird person singular subjects. It seems clear that -s absence is part of the grammar of Black English but that hyper-s is as much a violation of Black English rules as it is of the rules of standard English.

3.6 Excursus: The notion of interference. We have repeatedly stated that the evidence we have indicates that the present tense -s suffix is not part of the grammar of many speakers of Black English. This would mean that while the grammar of standard English would include a rule something like:[7]

$$X \begin{bmatrix} +3RD \\ -PL \end{bmatrix} Y \; [+VERB] \; [-PAST] \; Z$$

1 2 3 4 5 6 →

1 2 3 4+[z] Ø 6

where 2 is subject-of 4

Black English grammar would simply lack such a rule. But this would imply that the variation we have observed among our working-class speakers is produced by a number of speakers (of Black English) who (almost) never use -s and by a number of speakers (of standard English) who (almost) never show -s absence. A tabulation of -s absence by individual subjects shows a marked tendency in just this direction (see Figure 2). The six speakers who show less than 20 percent absence cause no particular problem. They are basically standard English speakers who slip into the Black English pattern of -s absence with less than one out of every five verbs in interview style. Similarly the nineteen speakers with more than 80 percent absence are basically Black English speakers who show interference from standard English with less than one out of every five verbs. If we stretch a point we may be able to include the eight speakers in the 70-80 percent range and the seven speakers in the 20-30 percent range. But this is tantamount to saying that these speakers use a pattern from a foreign speech system up to nearly one-third of the time. And we are still left with the problem of the seven speakers in the middle (30-70 percent) range.

There are two ways of dismissing the problem. One is to say that the sample is not representative, and that with more data, the percentages would shift in one direction or the other. This argument may be plausible in the case of the two speakers in the center of the range (40-60 percent). They each have only seven present tense verbs with third person singular subjects. However, linguistic features have generally proved

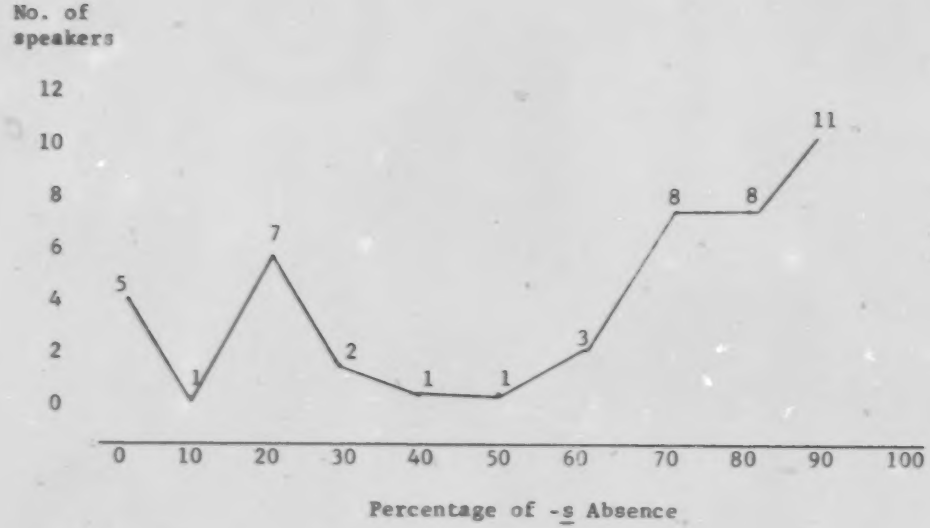


Figure 2. Frequency of third person singular present tense -s absence; by individual speakers.

so regular that even so few examples as seven usually begin to show an emerging pattern. But for some of the five speakers toward the edges of the middle range this argument is less cogent. One of the speakers in the 30-40 percent range had thirty-three examples; the other had twenty. One of the speakers in the 60-70 percent range had seventeen examples. To argue that these data are not sufficiently representative would be to strike perilously close to the root of the methodology on which this and similar sociolinguistic studies is based. To be consistent, we must procede under the assumption that the data for these seven speakers are representative.

Another way of dismissing the problem is to invoke the competence/performance dichotomy and dismiss the troublesome cases as "performance errors" which cannot be analyzed in the absence of an adequate performance theory. This procedure is unfortunately too often followed, with the result that "performance", like "free variation", becomes a dumping-ground for disturbing evidence. It seems reasonable to want to reserve the notion of performance for such items as "slips of the tongue", like hesitations and false starts, on the one hand, and for the actual application of demonstrable variable rules in individual instances, on the other.

If we are going to ascribe the variability at either end of the range to "interference", we are equally obliged to ascribe variability in the middle of the range to the same cause. And to do this also obliges us to investigate precisely what "interference" is, linguistically. Interference has been much-discussed in the literature on bilingualism (see especially Weinreich 1953). Psychologists have studied the behavior of bilinguals with respect to interference or independence at the lexical level.[9] Fries and Pike (1949) addressed themselves to some of the questions of independence and interference at the phonological level. Discussions of

syntactic independence or interference are rarer. The research which has been done so far leads most of the investigators to the conclusion that the bilingual has two separate systems between which he switches. But Weinreich (1953:9) states that "there is need for experimental investigation of the possibility that some bilinguals interpret at least parts of the linguistic systems as merged rather than coexistent. The purely linguistic evidence so far has not been conclusive." The hypothesis that systems may be partly merged seems more likely to be valid for separate dialects than for separate languages.

Gumperz (1967:56) makes an interesting comparison between code switching (presumably based on separate but coexistent systems) and stylistic switching (presumably based on largely merged systems). In code switching there are rigid cooccurrence restrictions, even when the grammatical material and even lexical material of the two separate languages are very similar. To take one of Gumperz' (1967:53) examples, in a Hindi-Punjabi bilingual situation the same thought in the two languages would be:

Punjabi:	oo	naii	khaandaa
	he	not	eating
Hindi :	woo	naii	khaataa
	he	not	eating

'he doesn't eat (it)'

In spite of the obvious similarity between the two sentences, no Hindi-Punjabi bilingual from this community would think of using khaataa, for instance, after having started the sentence with oo. The Punjabi pronoun oo must cooccur with the Punjabi participial affix -nd-, never with the Hindi element -t-. Similar cooccurrence restrictions are not entirely absent in stylistic switching, as Gumperz himself points out and illustrates in another article (Gumperz 1964:138). An American English speaker may be observed to use both It looks like it

ain't gonna rain today on one occasion and It looks as if it isn't going to rain today on another. But the sentence It looks as if it ain't gonna rain today is rather unlikely. Such stylistic cooccurrence restrictions are not as rigid as in cases of code switching and are often not two-way restrictions. While the use of ain't with going to is not to be expected, the use of gonna with isn't is not at all unusual. To return to the use and nonuse of present tense -s in Washington working-class speech, it is clear that cooccurrence restrictions are weak, to say the least. As we have already seen, -s is often used with the first, but not the second verb in the same conjoined verb phrase. To the extent that relatively rigid cooccurrence restrictions are to be taken as evidence of code switching and coexistent systems, the data we are analyzing would appear to indicate a partially merged system.

If, as seems likely on these and other grounds, Black English and standard English are largely merged systems for most of our black working-class speakers, the question arises as to the most appropriate way to represent this fact in formal linguistic terms. It will be instructive to begin by outlining some reasonable alternatives. First, in oversimplified diagram form, we represent the bilingual syntactic competence of a German-English bilingual individual, with rules gR_1-gR_n of German and eR_1-eR_n of English (see Figure 3). This model,

Figure 3. Schematic representation of the competence of a German-English bilingual individual, assuming disjoint coexistent systems.

assuming completely disjoint coexistent systems, accounts for the speaker's syntactic competence as long as he produces no ungrammatical sentences in either language which are traceable to rules in the other. But suppose the speaker produces English sentences like I went yesterday to New York. In this sentence the speaker has followed a low-level adverb placement rule of German which places time adverbs before place adverbs, instead of the corresponding rule in English, which has the opposite effect. This phenomenon can be represented by the diagram in Figure 4 where gR_i is the German adverb placement rule, and eR_j is the equivalent rule in English.

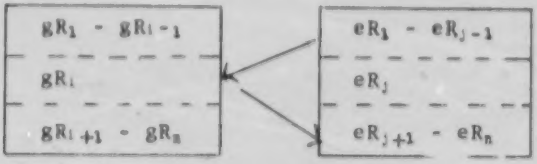


Figure 4. Bilingual interference model: German-English.

This model, again assuming disjoint systems, represents the speaker as following all the rules of English syntax through eR_{j-1}, which immediately precedes the English adverb placement rule. At this point, he leaves the English system and switches to the German system long enough to follow gR_i, the German placement rule. Returning to his English grammar, he resumes with eR_{j+1} and follows English syntax from that point on. The following three sentences would be produced by the following three corresponding rule sequences:

I went to New York yesterday: eR_1-eR_n

I went yesterday to New York: eR_1-eR_{j-1}, gR_i, eR_{j+1}-eR_n

Ich bin gestern nach New York gefahren: gR_1-gR_n

This interference model is plausible as a rough outline of what interference might mean for bilinguals. Applying the same model to bidialectal individuals, it becomes much less plausible.

To assume completely disjoint systems for Black English and a given standard dialect, for example, is to assume that the speaker is operating on the basis of two disjoint sets of rules, but with the vast majority of the members of these two sets exact duplicates of each other. Fasold and Wolfram (1970) gives a semitechnical account of the differences between Black English and standard English syntax and phonology, and is a nearly complete catalogue. If there is a mistaken emphasis in the article, it is in focusing too much attention on items which are rarely observed in actual speech. Yet all the differences outlined can no doubt be handled by the addition, elimination or modification of well under thirty syntactic rules when compared to standard English. Many apparent syntactic differences are really phonological, as we have seen is the case with -ed absence. This clearly represents a small percentage of the hundreds of rules which would be required in a really adequate syntactic description of English. It is no less than implausible to propose that a speaker who is observed to fluctuate between standard English and Black English forms operates on the basis of two disjoint sets of several hundred rules which are exact replicas of each other except, at the most, thirty rules.

It would be possible to maintain an analogue of the above interference theory if we assume that bidialectal speakers have a single system, but at certain points there are two or more rules to cover the same point of syntax. Figure 5 illustrates this model. The diagram represents a fragment of the syntax of a hypothetical language which includes rules R_a-R_n. This fragment contains only one difference between two dialects of the language; where one dialect has R_i, and the other has R_i'. If a given speaker varies between the form generated by R_i and those generated by R_i', he may be considered bidialectal for this point of syntax. If the generation of an utterance is "routed" through R_i, the variant associated with one dialect

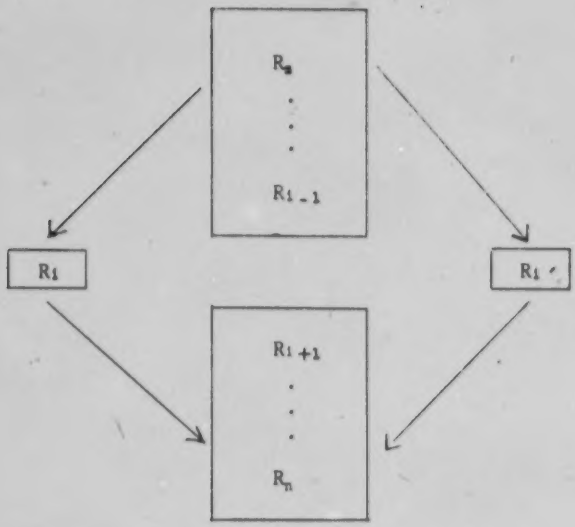


Figure 5. Bidialectal interference model, assuming largely merged systems.

will be produced; if the generation is "routed" through R_i', the variant belonging to the other dialect will result. The difficulty with this theory is that most of the syntactic differences between Black English and standard English which have been described so far are to be accounted for by a rule which is obligatory in one dialect and optional in the other; or present in one and absent in the other. In other words, in many cases, R_i and R_i' would be exactly the same in content, except that one would be obligatory and the other optional. In other cases, one of the rules, say R_i', would be null. That is, Figure 5 would have to be modified by removing the box containing R_i' and drawing a line on the right side of the diagram directly connecting the box containing R_a-R_{i-1} with the one containing R_{i+1}-R_n. This is precisely the situation with present tense -*s*. Standard English has R_i, the concord rule inserting present tense -*s*; Black English, for many speakers, does not. However, presence, absence and optionality is precisely the

range of linguistic behavior which variable rules handle so effectively. This leads to the obvious question, why not make -s insertion a variable rule and not invoke "interference" at all?

3.7 Labov's arguments. The preceding argument would seem to lead us to the conclusion that, indeed, the best solution is to make -s verb concord a variable syntactic rule for many of the working-class speakers in our sample. The variable rule would operate at different frequency levels, largely coinciding with general sociological factors, much as do the phonological variable rules which have been discussed in the literature. Since this conclusion conflicts with the "interference" solution accepted by Labov, it is incumbent upon us to examine his arguments in detail.[9]

3.7.1 High rate of -s absence. Labov et al. (1968:164) found "three clear indications which lead us to the conclusion that, as opposed to the plural -s, there is no underlying third singular -s in NNE [Negro Nonstandard English]." The first of these is that the magnitude of the indices is altogether greater than that for monomorphemic or plural -s. Unlike the other cases of final -s, the frequency of absence of verbal -s never drops below 50 percent for any group style, and in some cases the frequency is at or close to 100 percent in his data. The group data that Labov presents shows that several of the peer groups show -s absence at the 50-70 percent level. We have already seen the relative implausibility of ascribing to interference the use of a feature (in this case, -s) of 30-50 percent of the time. Now it is possible that Labov's group figures are due to several speakers who almost always use -s and many who almost never use it. Labov does not give data on individuals, but our experience with this kind of data would

lead us to suspect that there are at least some individuals who actually use -s in the 30-50 percent frequency range. For these speakers, if they exist, we would posit a variable rule on the same grounds that we posit a variable rule for Washington working-class black speakers who use -s at comparable frequency levels.

3.7.2 Absence of stylistic variation. Labov's second argument is that "there is no stylistic shift observable in moving from group style to single sessions." The reference here is to the pattern of stylistic variation first discovered by Labov in his earlier work (Labov 1966a) and confirmed in Labov et al. 1968. For inherently variable features it is to be expected that stigmatized forms (like -s absence) would be avoided more in more formal styles (like individual interviews) than in less formal styles (like group interviews). If verb concord absence were an inherently variable feature, the argument runs, it would be less frequent in the more formal style. This is not observed, so there is doubt that -s absence is actually inherently variable. The argument is reasonable enough; if there is no rule for -s concord in the grammar of a given speaker, there is nothing for the style constraint to operate on. On the other hand, if the use of -s when it does occur is to be explained as interference from standard English, one would expect more interference in that style in which standard English is more appropriate, i.e. single sessions. In other words, the interference hypothesis would predict the same effect as style stratification in the case of inherent variability. Thus, the absence of any tendency to use less -s in group interviews (Labov's style A) than in single interviews (Labov's style B) is as much an argument against the hypothesis that the occasional use of -s is due to interference as it is an argument against the hypothesis that it is an inherently

variable part of the grammar of the dialect for many speakers.

Furthermore, the pattern of stylistic stratificatiion in the case of the plural -s suffix, which Labov correctly asserts is intact in Black English, is far from clear. The data for plural absence given in Labov et al. 1968 are subdivided by style and also by whether a consonant or vowel followed the word. In this form, it is hard to get a very clear picture of the effect of style; however, Labov gives the total numbers of examples he is dealing with, so it is possible to reconstruct the effect of style while ignoring the effect of following environment. This information is given for the four groups for which Labov presents a full set of plural data (see Table 30).

Table 30. Percent absence of plural -s in four Harlem peer groups: by style

Peer Group	Style A	Style B
T-Birds	11.2	12.8
Cobras	26.3	4.0
Jets	6.8	4.5
Oscar Brothers	17.8	9.8

The table shows that, while style stratification is clear enough in the data on the Cobras and the Oscar Brothers, it is entirely absent in the data on the T-Birds and the Jets. Style stratification, then, is not a very reliable indication of the presence or absence of a feature in underlying grammar.[10]

3.7.3 Effect of a following vowel. Labov's third argument is the one he considers most important: "most importantly, there is no tendency whatsoever for a following vowel to lower (Z). On the contrary, the general trend is for less -s before

[vowels] than [consonants]." As we have already seen, the data in both Washington and Detroit tend in the opposite direction; that is, there is a small inclination for following consonants to favor -s absence over following vowels. But this type of evidence is basicaliy irrelevant to the issue at hand. The failure of phonological constraints to effect -s absence is evidence only that -s absence is not phonological; it has no bearing on whether -s is absent in the underlying forms or is deleted by a syntactic rule. The hypothesis that verbal -s is present in the grammar of Black English but removed by a syntactic rule is as consistent with the absence of phonological constraints as is the hypothesis that -s is not present to begin with.

3.7.4 Inference from hypercorrection. Elsewhere in the same chapter, Labov gives a fourth argument, which is reiterated by Wolfram. This is the argument from hypercorrection. The presence of such sentences as You just fails for that day or The last one is caughts are, in Wolfram's words (1969:137) "clues that demonstrate a basic unfamiliarity with rules governing the use of forms." Such evidence is "essential in designating items as [standard English] importations." Labov et al. (1968:168) put it even more strongly: "The third singular examples ... seem to correspond to an instruction: 'In careful speech, put in -s somewhere!'" This statement is obviously hyperbolic, but even so can be misleading. There are constraints on where that "somewhere" can be. In the first place, the form to which the -s suffix is affixed must be a verb. If Wolfram's hierarchy of hypercorrection (see section 3.5) can be borne out for some sufficiently large set of data, the use of the -s suffix would seem to be governed by a variable rule of the form:[11]

$$X \begin{bmatrix} B\ (+3RD) \\ \Gamma\ (-PL) \end{bmatrix} Y \begin{bmatrix} +VERB \\ A\ (+FINITE) \end{bmatrix} [-PAST]\ Z$$

1 2 3 4 5 6 →

1 2 3 4+[z] 0 6

where 2 is subject-of 4

That is to say, the data on hypercorrection can be taken as evidence for the presence of a variable rule with grammatical constraints rather than as evidence for interference from another linguistic system. Furthermore, if hypercorrection and high frequency of verbal -s absence are to be taken together as arguments for the absence of -s in the underlying grammar, then it ought to be true that those individuals who show hypercorrection are among those with the highest frequency of -s absence with third person singular subjects. This was not true among the Washington subjects; of the six speakers who showed hypercorrection, three showed -s absence with third person singular subjects less than 50 percent of the time, and one had a frequency level of only 8.3 percent.

3.8 Summary. In conclusion, then, we find that the data on verbal -s absence cannot be accounted for by imprecise appeals to "interference" or "importation". Rather, we suggest that there are at least four treatments of -s, exemplified in the data. We assume that those speakers represented by the subjects toward the right end of the scale in Figure 2 have no concord rule for verbal -s. Their occasional uses of -s are genuine instances of interference; that is, they are performance errors. The speakers represented toward the left end of the scale are standard English speakers and have in their grammars the obligatory rule on page 134. Their occasional failures to use -s are likewise performance errors. The speakers who fall in the center of the scale have the rule on page 134, but for them it is a variable rule. For them,

neither the use nor the nonuse of verbal -s is an error. Speakers who hypercorrect will have some such variable rule as that just discussed.

NOTES

1. For a brilliant analysis of the present tense forms of be in Black English, see Labov (1969b) and the confirmation of his conclusions with a different set of data in Wolfram (1969). The occurrence of the forms be and bes where standard English speakers expect present tense forms is discussed in chapter 4.

2. Verb concord -s was not tabulated for the verb say since it is often difficult to distinguish say, from which verb concord -s is absent, from sai', from which d has been deleted by the final stop deletion rule (see chapter 2).

3. This analysis is the standard one for English. In actual spoken English, whether standard or not, the expected [z] forms are so frequently voiceless, or only slightly voiced, that it seems questionable that voicing is really the distinguishing feature.

4. The value of X^2 for this and the following two potential phonological constraints was less than 1.00.

5. A following vowel did not consistently inhibit absence in adverbs, and the tendency was only slight for possessives (Labov et al. 1968:161, Table 3-10a). However, there were very few possessive examples. The inhibiting effect of a following vowel in the case of the monomorphemic and plural examples for all groups and in two styles is striking.

6. Several read makes as made.

7. The rule is in an approximate form. There are doubtlessly more elegant ways to insure that the noun phrase containing the third person singular element is the subject of the verb in question than merely to state it as a special condition. One possibility is to specify that it is the first noun phrase in preverbal position which must contain the third person singular noun or pronoun. But this assumes that the agreement rule must precede the stylistic transformations which produce sentences like An avid reader, I

read four books a day or Summoning the last of our strength, we bent to the oars. In these sentences, the verb must agree with I and we, respectively, not with reader or last.

We are assuming that the basic phonological form of the -s suffix is [z], with the vowel of the [ɨz] variant inserted epenthetically and the [s] variant created by a voicing assimilation rule. For arguments that this is the correct analysis, at least for the plural morpheme in Black English, see Labov et al. (1968:131-133), and Labov (1969a:49-50). The argument is recapitulated in Fasold (1969a:82-85). Litner (1970) discusses the problem of the underlying form of the -s suffixes in standard English, but comes to no definite conclusion.

For an insightful discussion of verb concord -s in standard English, see Illwitzer (1971).

8. For a survey of this literature, see John Macnamara, "The Bilingual's Linguistic Performance--A Psychological Overview", The Journal of Social Issues 23:2.58-77 (April 1967).

9. Wolfram (1969:137) seems to agree with Labov that the use of -s by "some working-class speakers" is due to "importation from [standard English]." He does not say what the status of -s in the speech of the remaining working-class speakers is, however. In any event, he does not give any arguments for this position other than the ones Labov gives.

10. Wolfram found style stratification between narrative and reading styles for verbal -s. However, the use of reading passage data as a "style" is questionable for grammatical variables, since the effect of the actual printed symbol in the written text may well be a more important constraint than reading activity as a contextual style. Macaulay's (1970) criticism that "the clearly marked difference between the interview style and the reading style is an artifact of the reading passage; the opposite results could have been obtained by asking informants to read a passage containing nonstandard variants instead" is a little too glib. Elsewhere in his review, Macaulay praises Labov (1966a) for his use of reading lists for such phonological variables as post-vocalic r. In that study, Labov found that the constricted r pronunciation was much more common in the reading of word lists than in other styles. But Macaulay's criticism applies here as well; the opposite result would no doubt have been observed if the lists contained "nonstandard" spellings without r. Implicit in

Macaulay's criticism is the notion that grammatical variables are more amenable to influence from the printed page than are phonological variables. This may well be true, but neither Macaulay nor anyone else has given any evidence in support of this assumption.

11. A more elegant form of this rule may well refer to the surface constituent structure of the verb phrase involved rather than a feature "FINITE".

4 DISTRIBUTIVE *be*

4.0 *General remarks*. The third grammatical feature which has a bearing on the analysis of tense in Black English is the use of distributive *be*. Unlike the present tense concord and *-ed* suffix features, distributive *be* represents a substantial difference between the tense system of Black English and that of the standard dialects of American English. We have shown that the absence of *-ed* is the result of low-level phonological rules which are shared, at reduced frequency levels of application and with perhaps a few differences in contextual constrictions, with the standard dialects. Third singular *-s* represents a larger difference, since its use, which is required in standard English, is either optional or excluded in the grammars of various Black English speakers. Nevertheless, its absence apparently does not affect the deeper grammatical levels.[1] I have earlier (Fasold 1969b) analyzed Black English distributive *be* as representing the *absence* of tense marking in some kinds of sentences. This absence entails a distinction in meaning. The interviews with the forty-seven working-class Washington black speakers were carefully analyzed for their use of distributive *be*. The additional data reinforced the earlier analysis, and I continue to maintain that distributive *be* is to be explained by the possible nonuse of tense marking with the lexical entry *be* in Black English, where this option is not open in standard English.

4.1 Function and meaning. Be in Black English has the same copula and auxiliary functions as the conjugated forms am, is, are, was, and were have in standard English. In particular, be can occur as the auxiliary in the progressive construction be+VERB+ing, as in 'Cause sometime I be sleeping and I don't feel like doing the work (74). Be also occurs as the copula before adjectives (Christmas? Everybody be happy (85)), predicate nominals (When you first come there, there be a lot of teachers (60)), locatives and some nonlocative prepositional phrases (Sometime I be with Rudy (02)) and past participles (Well, they be mixed up all kinds of way (41)). These sentences are not analogous to the absence of third singular -s; the present tense concord forms cannot be substituted for be without changing the meaning. In Black English, the meaning of be is to be distinguished from the meaning of is, am and are in that the conjugated forms can have a punctiliar or a durative meaning, but be cannot. He is working right now (or He working right now[2]) is perfectly grammatical, but *He be working right now is not acceptable. Similarly, He is my brother (or He my brother), referring to a permanent state of affairs, is possible, but *He be my brother is not. Distributive (or tenseless) be is only used in iterative contexts to refer to states or events which are periodically discontinued and again resumed. Occasionally it is the subject of the sentence, not the event in the predicate, which is distributed in time. One of the speakers cited in Fasold (1969b), in reply to a request for a description of a stingray bicycle, said Some of them be big and some of them be small. Although any given bicycle is always the same size, one encounters different bicycles at different points in time and these will be of varying sizes. That this phenomenon is relatively infrequent is illustrated by the fact that I was obliged to cite an example

from the 1969 study; there are no clear examples of subject-distributed *be* in the current set of data.[3]

It is not possible to use distributive *be* with a purely past time meaning (apparent counterexamples reflect underlying *would be*, in which *would* is deleted by a process to be described shortly). It is common to find emphatic and negative sentences in which the auxiliary is *do* or *don't*, e.g. *I DO be working harder than him*, or *They don't be hungry*, whereas the corresponding sentences with *did* or *didn't* are not possible.

4.2 *Identifying distributive be*

4.2.1 *Other uses of be*. The analysis of *be* in Black English must be careful to distinguish the distributive *be* cases from the uses of *be* which are shared with the standard dialects. From this point on, we will use the term "invariant *be*" to refer to the unconjugated form *be*, regardless of its function and derivational history in a particular sentence. "Distributive *be*" will refer only to those instances of invariant *be* which have the time-distributed meaning unique to Black English, and which are not derived from *will be* or *would be*.

In imperative sentences, all dialects of English use *be*, never a conjugated form, as in *Be quiet!* or *Don't be fooling around so much!* All dialects also use the form *be* in infinitive constructions, as in *He wants to be President*. Some speakers (but usually not Black English speakers) use *be* to indicate an unestablished fact, as in *If this be treason* .... This use of *be* is not only semantically distinct from the distributive usage in Black English; there is a syntactic distinction as well: the negative of the subjunctive is *be not*, e.g. *If this be not treason* ..., whereas the negative of distributive *be* is *don't be*, e.g. *He don't be in school*.

Another use of *be* in standard English is what might be termed the "buried imperative". The most favored environment

is in negative *if* sentences used as a threat, e.g. *If you don't be quiet, I'm going to spank you*. I have tested the reactions of several standard English speakers to the distinction between this sentence and *If you aren't quiet, I'm going to spank you*, and all associated a sort of imperative meaning with *If you don't be quiet ...*, but not with *If you aren't quiet ....* That is, the sentence *If you don't be quiet, I'm going to spank you* seems to mean something like "If you don't obey my command to be quiet, I'm going to spank you", while the notion of obeying a command does not seem to be quite so implicit in the other sentence.[6] The "buried imperative" *be* is acceptable in standard English, extremely restricted as to privilege of occurrence, very resistant to linguistic analysis, and has an imperative meaning. Distributive *be* is not acceptable in the standard dialects, much more freely usable syntactically, amenable to linguistic analysis, and iterative in meaning. Distributive *be* can no more be equated with this usage than it can with the subjunctive.

Finally, the form *be* is used without tense, person, and number concord after modal auxiliaries, e.g. *He might be there by now*. The modal auxiliaries *will* and *would* with *be* cause particular problems for the analysis of distributive *be*. First, *will* and *would* in standard English can in many contexts have a meaning which is fairly close to the distributive meaning of Black English *be*. Second, both *will* and *would* in Black English can be deleted in allegro speech. Labov (1969b) has described the deletion of *will* in Black English as taking place in four steps:

(1) Vowel reduction to schwa;
(2) Deletion of (w);
(3) English contraction (deletion of schwa);
(4) Black English deletion (deletion of '*ll*).

The first three rules also apply to would deletion, but not the fourth. The Black English deletion rule applies only to continuant consonants, not to [d]. The [d] (spelled 'd) from would can be deleted in both standard and nonstandard dialects in the following steps:

(4′) Assimilation of [d] to the following [b] (he'd be → he 'bbe);

(5) Reduction of geminate consonants (he 'bbe → he be).

In Fasold (1969b), I discuss and reject the hypothesis that all instances of Black English distributive be are to be accounted for by the deletion of will and would in this manner. I will not repeat the argument here, except to mention one piece of evidence. In negative sentences, contraction of will and would, and therefore their deletion, is not possible, so that distributive be is clearly distinguishable from will be and would be, yielding sentences like the following:

I know I won't be able to get what I ask for, so what's the difference? (10)

It was just the way that she did things that made me think that, you know, that she wouldn't be a nice person. (90)

Well, see, I don't be with them all the time so I can't pick out one specific leader. (25)

To account for the three-way distinction, a separate source for the don't be example is necessary.[8]

Distributive be must be distinguished from standard English usages if an accurate analysis is to result, but linguists who have worked on Black English have not always exercised the proper care. In her discussion of be, Mitchell (1969:33) includes the following example:

I tell them to eat, you know, and especially don't be talking with a mouth full of food.

She later uses this example as evidence that "the notion of

habitual does not completely cover the semantics of this usage [i.e. be]. There are many cases where repeated action is not implied as in example 38 [the above sentence]." The example, however, is a case of the imperative use of be, rather than the distributive use.

My debt to and high regard for the work of William Labov on Black English should be abundantly clear to anyone who has read this far. Labov too, though, has been guilty of an oversight in his analysis of be. He cites the following example as evidence that be can be used with punctiliar meaning (Labov et al. 1968:233):

> If he hit me.... He probably just hit me, 'cause he be mad right then; you know he wouldn't hit me otherwise.

It is reasonably clear that this example is not distributive be, but rather be which results from the contraction and deletion of would. The use of probably in the same clause and the overt use of wouldn't in the next sentence strongly indicates that would has been deleted.

4.2.2 Ambiguous cases. There is no particular difficulty, on syntactic and semantic grounds, in distinguishing distributive be from the imperative, infinitive, subjunctive, and "buried imperative" usages, as well as the use of be after modal auxiliaries besides will or would, but it is frequently difficult to separate examples of distributive be from examples of be resulting from the deletion of will and would, because of the deletability of will and would and because of possible semantic similarities between will be and would be and distributive be. Nevertheless, there are clues which can be used to make the necessary distinctions fairly accurately in a majority of cases.

Of course, if will or would appear overtly (either in their

full or contracted forms) in immediate construction with be, there is ordinarily no problem. Some cases of contraction, however, require careful listening to determine if a phonetic trace of 'll or 'd is actually present or not. In addition, the final [d]-deletion rule can apply to would, leaving a vestige which is easy for a standard English speaking observer to overlook, e.g.:

They w'be [wᵁbi] mad, but they wouldn't say too much, you know. (82)

He would have to prove to us, you know, that -- he w'be [wᵁbi] all right with us. (85)

Even if will or would do not overtly appear in direct construction with be, it is often possible to be reasonably sure that underlying will or would accounts for a given instance, if an overt will or would appears in the nearby context. For example:

What would I do? I be so happy, I don't know what I'd do! (86)

You still won't be marked absent, 'cause it just be nine o'clock. (Fasold 1969b:772)

Another clue which is sometimes useful is the presence of verbal modifiers in construction with a doubtful example of be. Often, the use of probably or rather is an indication that would has been deleted:

Like on a, uh--Friday or Saturday, I rather be off and go visit, you know. (61)

Field Worker: What would you do in the post office?

Speaker: I probably be a mail carrier. (18)

Similarly, a future time adverb is a good clue that will has undergone deletion:

'Cause next year I just be in the seventh grade. (67)

An exceptionally clear indication of deleted will or would--but one which is rather rare--is the false start.

DISTRIBUTIVE "BE"

The following examples were the only ones in two sets of data:

> On when they had assemblies at school, Miss Rosenzweig, we get ready to go, she be shou--she'd yell at you and make you get on line. (76)
>
> I be buying--I'd buy a little house and stuff. (Fasold 1969b:772)
>
> She would be--she like be a mother or something to me. (Fasold 1969b:772)

For the present study, the analysis of frequency-of-occurrence adverbs reported in the 1969b article was extended. The results indicate that cooccurrence with a frequency-of-occurrence adverb in a doubtful case makes it very probable that be is not a case of will or would deletion but is a case of distributive be. While it is not impossible for a verb phrase containing will or would also to contain an adverb indicating repeated occurrence, such adverbs proved to be much more likely with distributive be.

Many other cases of be can be assumed to be cases of will or would deletion, on the basis of general context. Following are three examples which were so assigned in the present study:

Assumed would deletion:

> When I was supposed to be doing my work, I be talking to girls, or talking to somebody. (85)
>
> They called him. They sent him a letter over this summer and told him that they be writing back to him. (60)

Assumed will deletion:

> What would I like for Christmas this year? Nothing in particular. Just so it be a safe Christmas and a happy Christmas. (25)

Though it is often possible to make a reasonable judgment about the derivational origin of most instances of be, there are cases which cannot be readily resolved. Out of about 200 examples which were extracted from the recordings of the

forty-seven working-class speakers, seventeen were left unanalyzed because the context was judged not clear enough to reliably assign the instance. An additional ten were set aside because potential phonetic vestiges of contraction could not be judged as either clearly present or clearly absent. For example:

> The way we played it, whoever get caught first, that was the one was It. Like, you know, there be three or four ... all be running in different directions. (73)

Speaker 73 is an adult describing a game. The general past context would indicate that the case is to be interpreted as resulting from would deletion. One cannot be certain, however, that the speaker has not switched focus between the first and second sentences so that the first sentence refers to the rules followed during the speaker's childhood and the second refers to the rules as being generally valid for all time. Two other examples illustrate another kind of problem.

> He's something like, uh--Apeman. He--you know, like it be about f--ten mans .... Well, he'll go around in the circus, he have about fifteen mens around him. (86)
>
> I'd buy a home and make sure they always be there and what not and then get my father a car. (10)

Both examples of be occur in contexts where an iterative occurrence would be a natural interpretation (notice the frequency-of-occurrence adverb always in the sentence spoken by speaker 10). But the possibility that one of the modal auxiliaries has been deleted must be considered, since contracted forms of one of the auxiliaries appear in the near context in both instances.

The following example illustrates a case in which the presence or absence of 'd from would could be established:

> On Tuesday night, sometime I used to. But most of the time I be [ə˘ b:i] on my porch. (45)

If the phonetic transcription of the lengthened [b] of *be* is accurate, it could be an indication that step (4') (see section 4.2.1) of *would* deletion has taken place, but not step (5). If the second sentence is to be interpreted as referring to the same past time span as indicated by *used to* in the first sentence, then the general context would also support *would* deletion. But if a time change has taken place, the frequency-of-occurrence adverb *most of the time* would favor interpretation as distributive *be*. The example was set aside as indeterminate.

In some cases, the centralization of the vowel preceding a potential *'ll* was suspected of being a phonetic trace of the contraction. For example:

> But if we say--if they say Simon said put your hand up we do it and if they--I say put my hand down, um--you *be* [yə bi] out. (61)
>
> Yeah, he catch rats. And they *be* [ðɛi bi] as large as he is, too. (84)

It is possible the pronunciation [yə] in *you be* and [ðɛi] in *they be*, rather than [yu] or [ðɛɪˤ], is made possible by the vocalization, reduction, and deletion of *'ll* (cf. Labov 1969b: 748). But there are other conditions under which such vowels can be reduced, so a judgment in favor of *will* deletion was withheld.

4.3 *Literature on be*. So far we have stated the meaning of distributive *be*, but without giving evidence for our conclusions. We have also discussed the problem of distinguishing distributive *be* from other uses, in particular, *be* which appears on the surface as a result of the deletion of *will* or *would*.

Most linguists who have dealt with the phenomenon have included the distributive or "habitual" meaning as a possible

meaning.[6] An excellent review of the literature up to early 1969 is included in Wolfram (1969:180-196). Since Wolfram's study appeared, I have become aware of another study, that of Samuel Henrie (1969).

In his careful semantic and grammatical analysis of verb forms in the speech of three five-year-old Black English speaking children in the San Francisco Bay area, Henrie proposes a solution for one of the most recalcitrant problems in all data-based sociolinguistic work, i.e. how to elicit the grammatically interesting forms from speakers without providing so much structure that the results are not stilted. Labov et al. (1968: 57-64) used certain highly unstructured situations to elicit what was as close to natural spontaneous speech as was possible given the limitations of tape recording. A somewhat more structured approach, which allowed some control over topics, if not over specific grammatical forms, was the interview format used to elicit the data in the present study. The problem with approaches which are as unstructured as these is pointed out by Henrie (1969:17):

> Other language studies have dealt with free speech output in which researchers were limited to the study of those forms which were spontaneously produced. Many of the more rarely used forms simply do not appear, and for this reason cannot be analyzed.

A much more structured elicitation technique is sentence repetition. In this way the investigator can (hopefully) get the child to use exactly the form he is interested in. Henrie tried and rejected this technique because (1969:19): "the sentence imitation technique was found to overstructure the child's output, so that the sentences produced appeared more to be rote repetitions than the kind of sentences the child could be expected to use under normal school circumstances." The technique utilized by Henrie was story retelling. Short stories were constructed which included "almost every possible

main verb phrase form which can occur in Standard English." In addition, each verb phrase type appeared in declarative, negative, yes/no question, and wh-question constructions (Henrie 1969:20-21). The children were first told each story, utilizing a sequence of pictorial illustrations. Then, the child was told the story again and asked to repeat the sentence associated with each picture. Finally, the story was told by the child as he was shown the pictures. In this way, the children could be expected to use those syntactic patterns of their own competence which most closely matched the standard English syntax of the input sentences. The technique, judging from Henrie's results, was moderately successful, although we venture to suggest that Henrie was perhaps too ready to assume that the children's repetitions were directly equivalent to the semantic focus of the input sentences.

Once the sentences had been elicited, Henrie classified each according to semantic categories. The categories, derived in part from Crystal's (1966) system, are highly relevant for the analysis of the meaning of distributive be presented here. Henrie classified the sentences in terms of time reference (past, present, future, and atemporal); duration and frequency of occurrence (short, habitual, long, and atemporal); and activity (active and stative). If our claims about distributive be are valid, Henrie should have found that be is highly correlated with the habitual category. Distributive be should never be found in past, short or (as Henrie defines it) atemporal contexts. For Henrie, atemporal must be either "never", or a continuous, finite process or state, or an eternal process or state. These meanings (except "never") are excluded by the meaning we are claiming for the form be. Henrie's activity category is not relevant to the meaning we are interested in. Reproducing part of Henrie's chart (1969:82), we find tendencies in this direction:

Semantic Features	Unconjugated Be
short	5
habitual	20**
habitual	20***
long + atemporal	17
present	32
past	6

The numbers, which refer to number of responses, are all in the predicted directions, two of them with statistical significance. Three asterisks indicate significance at the .005 level of confidence and two asterisks the .01 level, using a z-test for comparison of proportions where the amounts of unconjugated be in the paired categories are compared with the amounts of the standard English conjugated forms used by the standard English speaking control group. While the figures in general come out in the expected directions, it is damaging to our hypothesis that the chart shows five instances in short time contexts, six in past contexts, and seventeen in atemporal contexts. Fortunately, Henrie includes virtually his entire data collection in the study. By examining the "damaging" instances in detail, it is possible to argue, for most of them, that the children apparently changed the semantic focus of their responses from the focus which was present in the original sentence. The five sentences in the short context, with the original sentence (where Henrie gives it), are the following (Henrie 1969:54-57):

Original Sentence	Be Sentence
I will be wearing it.	He be wearing it.
	I* be scared.
He is sad.	He be sad.
He is crying.	I be crying. [twice]

The asterisk in I be scared refers to a note by Henrie that the sentence is an instance of would deletion. The first sentence

is easily interpretable as an example of will deletion. The third and fourth are not quite so easily dismissed, but it is quite likely that the children who used these sentences shifted the time reference from immediate and of short duration to distributive. Note that the two responses I be crying to the original He is crying also contain a change of pronoun. The response He be sad is one of thirty-five responses to He is sad, and none of the other thirty-four involve be. Similarly, the two I be crying examples are the only such sentences out of thirty-four responses to He is crying. The six past occurrences are the following (Henrie 1969:64-65):

Original Sentence	Be Sentence
They were always squawking.	They always be squawking. [four times]
When there was food, he was always there.	He always be there.
When there was work, he was never around.	When there was work, he didn't be around.

The four instances of They always be squawking are fairly obviously instances of change of focus. It is not hard to visualize the child being shown a picture of a nest of baby robins with their mouths open and remembering that the important thing about them was that they were constantly squawking, while forgetting that the time span in the original story was past. A similar explanation holds for the second sentence, especially since the speaker who gave that response left out the when clause, which contains a past tense cue--the word was. The last sentence stands as an incontrovertible counterexample to our hypothesis.

I was only able to find sixteen of the seventeen examples of be sentences in atemporal contexts claimed by Henrie. These are as follows (Henrie 1969:67-68):

Original Sentence	Be Sentence
The sky is never green.	The sky never be green. [twice]
The sky is never green.	The sky don't be green. [twice]
Robins are always flying away and coming back.	Robins all the time be flying around. [seven times]
It is blue.	They be blue. [twice]
She is a rich lady.	She be a rich lady. [three times]

The four *be* responses to *The sky is never green* beautifully point up an ambiguity in the standard English sentence which can be disambiguated in Black English by the use of distributive *be*. *The sky is never green* in standard English can mean something like "The sky is in a constant state of not being green" or "There are no occasions on which the sky is green." If the first gloss is appropriate, then the atemporal classification is justified, but the second gloss seems much more natural. It is clear that the children gave it the second interpretation and removed the ambiguity by using distributive *be*. If this is correct, then the atemporal classification is not appropriate and the responses should be reclassified as habitual. Incidentally, *The sky don't be green* is a singularly apt translation of *The sky is never green*.

A similar argument holds for *Robins are always flying away and coming back*. The most natural understanding of that sentence is as reporting an intermittent, not a continuous or eternal activity. The children who gave *Robins all the time be flying around* took that meaning and glossed it very competently in Black English. I was unable to find the context in the stories for *It is blue*, but it is significant that the replacement of *is* by *be* accompanies the replacement of *it* by *they*. These two are the only cases out of thirty-one in which

either change was made. The cooccurrence of these two changes from the original sentence suggests that they are examples of the subject distribution use of distributive be, which we mention above. The three instances of She be a rich lady for original She is a rich lady constitute fairly strong counter-examples to our understanding of the meaning of be, unless one takes them as examples of will deletion. A story in which a poor lady has just been informed that she has won a contest ends with the sentence Now she is a rich lady. It is possible that the children thought that the lady will not be rich until she actually gets the money, i.e. in the future. This argument is admittedly a bit labored.

Of the twenty-eight potentially embarrassing examples in Henrie's data, only four cannot be satisfactorily explained. Although unexplained, these four must be matched against the weight of the many sentences which do indicate a distributive meaning.

Henrie's technique was imaginative and largely successful and his statistical technique for analyzing semantic emphases was used to good advantage. Statistics, at least in the case of be, are not necessary so much for measuring meaning tendencies as they are for compensating for the occasional failure of the respondents to maintain the semantic time reference focus of the original stories.

4.4 The meaning of distributive be

4.4.1 Adverb cooccurrence. We will now turn to the evidence in the Washington corpus. Perhaps the most cogent evidence in support of the distributive, iterative or habitual meaning of be can be derived from a study of time adverb cooccurrence. David Crystal (1966) has given a very useful taxonomy of English time adverbs. A slightly modified subsection of his Class A (frequency-of-occurrence) time adverbs, i.e. which

answer the question "how often?", is relevant for the meaning we claim for distributive be. Crystal's Class A1, A2, and A3 adverbs are labeled nonoccurrence, single occurrence, and fresh occurrence, respectively. Nonoccurrence is not relevant to the distributive meaning, since one can equally well deny continuous, single or iterative occurrence. Single occurrence and fresh occurrence would not support the distributive meaning. The remaining six categories are rare occurrence, occasional occurrence, frequent occurrence, usual occurrence, regular occurrence, and continuous occurrence. All of these refer to types of intermittent occurrence and are highly compatible with the distributive meaning of be. The final category, continuous occurrence, includes the adverbs always and all the time. These adverbs are basically ambiguous (as Crystal implicitly recognizes; he says they can answer the questions "how often?" or "how long?"). These adverbs mean something like "inevitably occurs when favorable conditions are present" or, more rarely, "occurs without interruption". An example of the former is She always orders shrimp when she goes to a restaurant. This does not mean that she spends her life in a restaurant ordering shrimp, but rather that on those (successive) occasions when she goes to a restaurant, what she orders is shrimp. The latter meaning is illustrated in a sentence like The earth is always revolving around the sun. Of course only the former meaning supports the distributive meaning. Another adverb, most of the time, which Crystal classifies under Class B, "restricted duration", seems to be subject to the same ambiguity and usually means repeated occurrence. For our purposes, we have classified most of the time as a frequency-of-occurrence adverb. Another linguistic indication of repeated events is cooccurrence with clauses beginning with whenever, or when in the sense of whenever. If be occurs in the main or subordinate clause, the distributive meaning is

supported. An example of be in the main clause is:

> Like when somebody's mother is sick, we be on the front porch and somebody start hollering and everything. (55)

Be occurs in the subordinate clause in:

> You know, when I be talking to the fellows, you know, I might say something but, uh--I don't do that any more, you know. (11)

It is a reasonable hypothesis that the meaning of such when clauses and frequency-of-occurrence adverbs and distributive be is so close that they would tend to cooccur in the same sentences. In Fasold (1969b), I checked the cooccurrence of these time expressions with distributive be against their co-occurrence with the present tense conjugated forms. The hypothesis was confirmed: when clauses and/or frequency-of-occurrence adverbs cooccurred with 36.1 percent of the be instances but with only 1.5 percent of the conjugated present tense forms.

These results constitute important evidence that be is not equivalent in meaning to the conjugated forms, but does not say anything about the meaning of be as distinct from all other verb phrases. In the present study we wished to compare the frequency-of-occurrence adverb cooccurrence with be with its cooccurrence with all other verb phrases. The difficulties soon became apparent. Those working-class speakers who used be in the interview averaged less than five instances per speaker, while almost every speaker used several hundred other kinds of verb phrases. To tabulate all the verb phrases in the interviews of all the speakers who used be would have been a forbidding task. Yet to get a meaningful number of instances of distributive be, a fair number of speakers would have to be tabulated. As a solution, twelve of the be-using speakers were analyzed for their use of frequency-of-occurrence adverbs

(including when clauses). The twelve speakers were selected so as to provide as even a distribution as possible by age and sex. Six were children; three boys and three girls. Four were adolescents: two boys and two girls. The two remaining speakers were adults, both men (none of the adult women used be). As we will see, be is much more common among younger speakers, not only because nonstandard features tend to predominate among younger speakers but also because of some aspects of the questions in the interview.

The twelve speakers used a total of seventy-one instances of distributive be and 5,901 other verbs. The distribution is shown in Table 31.

Table 31. Cooccurrence of distributive be and other verb phrases with frequency-of-occurrence adverbs or when clauses.

	Distributive Be	Other Verb Phrases
F/O adverb or when clause	16	388
Absence of F/O adverb or when clause	55	5,513
Percent cooccurrence with F/O adverb or when clause	22.5	6.6

$X^2 = 28.3$; $p < .001$

The results show that frequency-of-occurrence adverbs are more likely to cooccur with be than with any other type of verb phrase. From this it can reasonably be inferred that the iterative meaning inherent in the adverbs is more compatible with be than with other verb phrases.

To obtain further evidence, tabulations were made of the

cooccurrence of frequency-of-occurrence adverbs with distributive be and with those cases of will or would with be in which will or would overtly appeared. Cases which were judged as ambiguous between distributive be and will or would plus be were tabulated with distributive be, but cases in which will or would deletion was judged to be the explanation for be, although no vestige of will or would actually appeared, were not tabulated. The results are shown in Table 32.

Table 32. Cooccurrence of distributive be (including ambiguous examples) and will or would plus be with frequency-of-occurrence adverbs or when clauses.

	Distributive be	Will or would plus be
F/O adverb or when clause	43	4
Absence of F/O adverb or when clause	108	77
Percent cooccurrence with F/O adverb or when clause	28.5	4.9

$X^2 = 18.08$; $p<.001$

These results show two things. First, the twelve speakers who supplied the data for Table 31 appear to be representative of the whole set of be-users, since they use be with frequency-of-occurrence adverbs at about the same rate (22.5 percent against 28.5 percent) as do all the be-users. Second, the results indicate that will or would plus be behaves like all other verb phrases with respect to cooccurrence with frequency-of-occurrence time adverbs. This provides further evidence

that will or would deletion cannot account for all instances of invariant be in Black English.

Finally, the cases in which will or would deletion was judged to be the probable explanation for invariant be were tabulated. Of the twenty-two examples, only two (9.1 percent) cooccurred with when clauses or frequency-of-occurrence adverbs, which tends to show that these examples behave like will or would plus be, rather than like actual distributive be.

4.4.2 Topical settings. Another indication of the distributive meaning of be is derived from study of the topics under discussion when be is used. Three general kinds of topics were judged particularly compatible with the distributive meaning. The first was descriptions of games, elicited in Section IA of the interview. Games are played repeatedly and if a speaker with competence in the use of distributive be is describing a game, he is quite likely to indicate that what he is saying has validity every time the game is played. Another compatible topic was descriptions of school procedures, elicited in Section II of the interview, provided the descriptions were given by children and adolescents still in school. These procedures are routines which take place every school day, and so reflect the kind of repetitiveness we claim for be. The third topic was descriptions of ways of celebrating Christmas, elicited in Section VA. A report of the way the family celebrates this annual event meets the distributive requirement.

Of the 123 examples which were taken as genuine distributive be, i.e. excluding cases which might have been derived by will or would deletion, more than half (58) were taken from the section on games. Two typical examples are:

> I get a ball and then some children be on one team and some be on another team. (62)

All the marbles be in the center. And a guy comes along with a big marble and knock them all out. (85)

In the discussion of school procedures by children and adolescents, twenty-three cases were tabulated. For example:

We always have to sing a song in the morning time, like, uh--it be on the record player. (62)

Then when the other person be up, they sit down real quick and they say that he did it because he be standing up. (66)

Seven examples appeared in the section on Christmas. For example:

Christmas Day, well, everybody be so choked up over gifts and everything, they don't be too hungry anyway. (82)

My facher be the last one to open his presents. (10)

These eighty-eight represent 71.5 percent of all the distributive be examples analyzed. Of the remaining thirty-five examples, twelve occurred in discussions of miscellaneous topics. There were no problems with the distributive meaning, in spite of the fact that the general topics did not particularly favor iteration. For example:

Yes, there always be fights. (76)

'Cause every time he come to the Howard Theater, he bes there for a week. (41)

Although the discussion of television and movie episodes (Section IB) was one of the most productive topics, only eight instances of distributive be were found. But since such narrations were in the past tense, it would be unlikely under our hypothesis that there would be any examples. Inspection of the eight examples reveals that they were of two types. Some were used in preliminary discussions of the speaker's television-watching habits, such as:

On Saturdays, I like to watch cartoons, but I be out working. (89)

The others occurred within the narrative, but referred to conditions that are generally valid, not incidents which were particular to the individual story. An example of this type is:

You know how there be some lot of woods and things? He went out there. (86)

The remaining fifteen examples occurred in the discussions of group structure. This would appear to be damaging to the claim that distributive be cannot refer to permanent situations. Again, however, examination revealed that they referred to regular practices with respect to the group the speaker was discussing, not to permanent aspects of its structure. For example:

When I be playing football out to club I have a few white friends out there, me and them are real tight. (11)

Well, you know, you call that your walk man, you know, like the person that you be with all the time. (13)

In sum, distributive be is more than twice as likely to be used while the speaker is discussing topics which have an inherently iterative component than when he is discussing other topics. But even in those cases where be is used when other topics are under discussion, even those with generally past time or permanent references, the specific instances of be are nonetheless clearly distributive in meaning.

4.5 Sources of invariant be. In Fasold (1969b), I reported on the results of an experiment designed to test whether or not the three sources of surface invariant be (will deletion, would deletion, and distributive be) could be discriminated by black working-class speakers. The exercise was based on the fact that there are certain abbreviated sentences in which contraction, and therefore will and would deletion, is not

possible. The procedure called for the response I know he + auxiliary in connection with sentences containing invariant be. Each speaker was asked to listen to five samples. The sentences were given in a male voice and the responses in a female voice. The sample sentences and responses were:

Male: He can drive a motorcycle.
Female: I know he can.
M: Can what?
F: Drive a motorcycle.

M: The teacher could be wrong.
F: I know she could.
M: Could what?
F: Be wrong.

M: Darryl hit his brother.
F: I know he did.
M: Did what?
F: Hit his brother.

M: My cousin should do his work.
F: I know he should.
M: Should what?
F: Do his work.

The samples contained no sentences with be and none involving will or would, and none called for do as the auxiliary in the response (do was the expected auxiliary associated with distributive be). The further probes, such as Can what?, were necessary to determine just what was being abbreviated (the need for this will be explained later). After each speaker heard the samples, the test sentences began. The first contained an overt auxiliary (can) and was used to determine whether or not the speakers understood the task. The great majority of speakers did understand, including the younger children. Eleven sentences followed, four of which had to do with invariant be. These were:

(1) If he got a walkie-talkie, he be happy.

(2) Sometime Joseph be up there.

(3) He be in in a few minutes.

(4) Sometime my ears be itching.

All of these sentences were originally spoken by speakers of Black English in Detroit and Washington and were rerecorded on the test tape. The hypothesis was that the speakers would ascribe the presence of be in sentence 1 to would deletion and would use would in the response; that they would ascribe the invariant be in sentence 3 to will deletion and would use will in the response; and that they would ascribe the presence of be in sentences 2 and 4 to distributive be and would use do in the response. The results for the forty-six speakers, which include the thirty-seven speakers reported on in the 1969b paper, are shown in Table 33.

Table 33. Results of abbreviated response test with be.

Sentence	do form	will	would	is/are	itch	Failed to understand task
1. be happy	do 0 / does 0	0	29	1		12
2. be up there	do 6 / does 11	17	6	10	5	8
3. be in	do 0 / does 0	0	36	4	0	6
4. be itching	do 19 / does 2	21	0	2	6	7 10

There were more responses of the expected type than any alternative. In sentences 1 and 3, the expected will and would responses were in especially clear majorities. In sentences 2 and 4, involving distributive be, more speakers selected alternative responses--and for good reason. Almost every speaker of Black English knows that the use of distributive be is socially

stigmatized, and in a formal interview--in most instances with a middle-class white interviewer--there is a great deal of incentive to avoid using stigmatized forms. This incentive would probably be even more intense in the format employed for this task. Another motivation, which seemed to be present in most cases, was a desire to give the "right" answer. In the case of sentence 2, there were at least four ways of dealing with this conflict. First, the speaker could completely hypercorrect and substitute the present tense concord form *is*, as five speakers did. Or the speaker could interpret this case of invariant *be* as derived from *will* (or *would*) deletion, in spite of the presence of the frequency-of-occurrence adverb *sometimes*. The selection of either of these would be a legitimate choice, although somewhat strained in this context. The selection of a *would* response was a particularly live option, since sentence 2 immediately followed sentence 1, to which most speakers had correctly used *would* in response. Fourth, a speaker could select a form of *do*, but hypercorrect it to *does*. Eleven speakers responded in this way, even though the result was neither good standard English nor good Black English. In spite of the variety of ways to circumvent the use of an auxiliary which would reveal competence in the use of the stigmatized distributive *be*, more speakers chose a form of *do* than any other single option, and six speakers gave the fully appropriate *do*.

All of these options were also present in sentence 4, although none of the speakers chose *will*. In spite of the fact that the subject of sentence 4 is plural, two speakers hypercorrected their *do*-form response to *does*, another two used *would*, and six selected *is* or *are*. This sentence afforded a fifth option, which was utilized by seven speakers. They responded with *I know they do* to the original stimulus sentence, but when asked *Do what?*, they replied *itch*, indicative that they

had translated the stigmatized be itching by the socially acceptable (and closest standard English translation) itch.

Although there were attempts to avoid the do responses appropriate to the distributive be sentences, the pattern in Table 33 is clear evidence that the three sources claimed for invariant be can be discriminated by many speakers of the dialect.

4.6 Linguistic analysis of distributive be. So far, we have been able to demonstrate that Black English has an invariant form of be which is used in main verb phrases in the same broad syntactic constructions as are the concord forms of be in all English dialects. We have argued that some instances of invariant be can be explained by the deletion of will and would in construction with be, and that there is a certain distributive meaning borne by those instances of be which cannot be accounted for by such deletion. In passing, we have pointed out that while do be and don't be are not uncommon, examination of a substantial amount of data has failed to turn up examples of did be or didn't be. Any analysis which attempts to account for distributive be must explain these facts.

One decision which has to be made is whether or not distributive be in Black English is the same item as the conjugated forms. Some linguists (e.g. Labov et al. 1968:228-37; Stewart 1969:181) have analyzed distributive be as a separate lexical item. This would appear to be a rather unlikely solution, since, except for distributive be, the form be itself, and the conjugated forms, have exactly the same distribution that they have in the standard dialects. It would be remarkable if the language had two (and only two) words with copula and auxiliary functions and both had the form be in some of their realizations. An argument could be constructed that all instances of be in Black English are distributive, so that in

the sentence He might be home now, the infinitive be is distributive for a Black English speaker, but not for a standard English speaker. That is, for a Black English speaker, but not for a standard English speaker, the sentence means something like "There is at present a possibility that he is repeatedly at home." It is extremely doubtful that the sentence has such a meaning for any English speaker, and it is clearly much more reasonable to assume that there is only one be in English and try to find a syntactic explanation for the Black English usage.

If the uses of be in the standard dialects are analyzed, it turns out that what they all have in common is the absence of tense marking. If be is marked for nonpast tense, the concord forms am, is or are result, depending on the person and number of the subject. If it is marked for past tense, was and were result. But in modal constructions, either there is no tense marking in the verb phrase at all, or, if there is (depending on one's analysis), it is reflected in the modal verb, not in be. Infinitive be is by definition unmarked for tense, and the imperative mood is opposed to the indicative mood is opposed to the indicative mood in which tenses are found.[7] The same sort of argument applies to subjunctive be in those dialects in which it is found. If the "buried imperative" cases turn out to be genuine cases of imperative constructions, the same argument will hold true there. In our analysis, the same syntactic explanation applies in the case of distributive be. Unlike standard English, Black English allows be to appear in nonmodal main verb phrases without an associated tense marker. By positing this one change, all the facts we have discovered about be are accounted for. It has the same syntactic privileges of occurrence as the concord forms of be, simply because it is the same item. It has the form be rather than anything else because that is the normal

form for this item where tense is not involved. It also explains the absence of sentences with *did be* or *didn't be*; tenseless *be* could never be associated with the past tense marker that would give rise to *did*. The distributive meaning is compatible, too; since the action is repeated with some degree of regularity, it cannot be specified as taking place specifically in the past or specifically not in the past.

A problem arises with regard to the status of *do* in *do be* or *don't be* constructions. It makes no sense to say that *do* is inserted as a tense-carrier if there is no tense to carry. An analysis of the English verb system in which *do* appears as a pro-verb in all sentences and is deleted under certain circumstances would avoid this problem. *Do* in *do be* or *don't be* is simply the pro-verb appearing in circumstances which do not call for its deletion. But such instances of *do* must be assumed not to carry tense at all, while our analysis so far has assumed that *do* in other Black English sentences, like *do* and *does* in standard English, has nonpast tense. It could be argued that in Black English *only be* carries nonpast tense (in the forms *am*, *is*, and *are*) and that all other verbs are tenseless if they are not in the past tense. But such a claim is almost empty of meaning, since one would be at a loss to suggest how it could be confirmed or denied.[8]

The solution proposed here is that Black English distributive *be* indeed represents the use of the copula/auxiliary form *be* without any tense marker, in spite of the fact that this analysis entails allowing *do* as an auxiliary for *be* to be tenseless, while carrying nonpast tense as a main verb or as an auxiliary for verbs other than *be*. In a generative semantic model, the distributive meaning would be generated at deeper levels of the semantico-syntactic component, later undergoing the insertion of *be* without tense under the appropriate conditions. In the alternative interpretive semantics model, the

distributive meaning would be projected on the basis of the use of *be* without tense. Incidentally, we would suggest an analysis along the same lines for English dialects which have subjunctive *be*. The use of *does* with *be* should be regarded as a hypercorrection, as the two instances in line 4 of Table 33 certainly are. In fact, *be* itself is not infrequently hypercorrected to *bes*.

4.7 *Counterexamples to the analysis*. It would be less than candid not to mention a few real and apparent counterexamples to our proposal. One of these would tend to falsify the claim that *be* cannot have present punctiliar meaning. This is the use of the expression *There you be*. In each instance, the usage could only reasonably apply to an immediate situation. But there are four odd facts about *There you be*. First, it is always in just this form. Second, it deviates from a large amount of other data in being nondistributive (*will* or *would* deletion is not a reasonable analysis). Third, unlike genuine distributive *be*, it was once observed in the speech of a white speaker. Finally, it was observed to be used only in a very restricted semantic context, one in which the speaker is presenting the hearer with a situation of the speaker's making and, in some sense, for the hearer's benefit. For example, *There you be* was repeatedly used by Speaker 35 when an elevator door opened after he had pushed the button. A fifth-grader from Norfolk used it after he had opened a car door for a group of adults. A Washington teen-ager used it after making a basketball shot he was proud of. A white service station attendant said *There you be, sir* as he presented a customer with his credit receipt. For these reasons, we conclude that *There you be* is a set phrase which is perhaps a relic of an older, non-Black English *be* usage.

More damaging are instances in which *be* is used in past contexts (especially those in which *did* is used as an auxiliary). This usage has been reported as nonexistent in the Washington data, but I have come across five instances from other sources. Three of these are sentences reported to me by Mrs. Lyn Kypriotaki as sentences used by black Philadelphians:

By a middle-aged woman, native to Philadelphia, sixth grade education:

Miss Ray *be* gone yesterday and the door was standing open.

I went on Saturday for the battery but the man *be* closed up.

By a nine-year-old boy:

My sister *be* crying yesterday because she two--a baby!

One of the two examples containing *did* is reported by Samuel Henrie (1969:65):

When there was work he didn't *be* around.

The other example was in the form of a question put to me by a friend who is very competent in the dialect. Speaking of silver-colored pennies, he asked:

Did there *be* silver pennies in 1943?

To the extent that these sentences are representative of dialect speakers' competence in distributive *be*, they damage the nontense hypothesis. It is possible to explain away Henrie's example by arguing that it represents a stage in the acquisition of Black English, since his speaker was a young child. However, no such explanation suffices for the other sentences. Nevertheless, it is difficult to overemphasize that these five sentences represent *all* the instances of *be* used in a past context which I have been able to find, while those which conform to the nontense hypothesis are numbered in the hundreds.

The grammaticality of *did be* sentences was tested with fifteen Harlem black adolescents in the data reported on in Wolfram (1971). The speakers were given a task very similar to the one reported on in Table 33. Among the sentences tested were *Sometime Joseph be up there*, borrowed from the Washington interview, and *Last year he be at the pool every day*. According to the nontense hypothesis, the second sentence is not interpretable as an example of distributive *be* and hence should not receive the *did* auxiliary in a past context. For our hypothesis, the only legitimate derivation for this sentence is via *would* deletion. The responses to these two sentences for the fifteen Harlem adolescents, who were not as successful at the task as were the Washington working-class speakers, are shown in Table 34.

Table 34. Results of abbreviated responses to two sentences by fifteen black Harlem adolescents.

	do	*will*	*would*	*is*	*was*	*other*
be up there	2	4	3	5	0	1
be at the pool	0	2	4	1	2	6

The responses to the *be up there* sentence show that there was a strong tendency to avoid the stigmatized *do be* interpretation, in spite of the fact that most of the fifteen used distributive *be* in the narrative section. Seven escaped by using the legitimate (in terms of Black English grammar) *will* or *would*; two used *do*; and five hypercorrected to *is*, one revealing his hypercorrection by a false start: I know he d--, is. One of the fifteen was not able to perform the task at all.

The responses to the *be at the pool* sentence appear to be equally inconsistent. But a closer analysis shows that the responses are considerably more erratic than the responses to

the be up there sentence. First of all, none of the fifteen responded with did, and none gave be at the pool as a completion. One speaker responded with I know he did, but gave been at the pool as his answer to Did what? Since he was not able to associate did with be, we tabulated his response as "other". The remaining five "other" responses show a fairly deep level of puzzlement. Two speakers could not respond at all; two gave I know he could; and the fifth, instead of using the format called for in the instructions, supplied He been at the pool. Three other responses strongly indicate guesswork rather than reliance on language competence. Two of the speakers gave I know he will, and one gave I know he is, in spite of the past time adverb last year in the original sentence. Of the remaining six responses, four included would, as the hypothesis would predict, and the other two utilized was (a response analogous to is in association with the be up there sentence). Of the two speakers who gave the expected do response to Sometime Joseph be up there, one gave the expected would in response to Last year he be at the pool every day, and the other supplied was. Neither hesitated and neither showed the slightest inclination to use did. The failure of the test task to elicit did in association with be is one indication that for many speakers of the dialect, did is not an appropriate auxiliary for be. The inexplicable nature of the responses of those speakers who did not hit upon would or was as the auxiliary is an indication that the use of be in the past, if would deletion is not inferred, is foreign to them.

4.8 Summary. The use of distributive be in Black English, unlike the absence of verb concord -s and the absence of the -ed suffix, is an example of a fairly substantial semantic and syntactic difference between Black English and the standard dialects. Once genuine examples of distributive be are separated

from other types of invariant be, it can be shown that distributive be indicates intermittent distribution in time. We have attempted to establish this meaning through a study of cooccurring time adverbs and topical settings as well as by general impressions derived from the examination of hundreds of examples. In spite of a small number of counterexamples, we conclude that distributive be, for most Black English speakers, is opposed to the present and past forms of to be in that be has no tense marker at all. This allows a uniform explanation of the form be in its distributive and nondistributive uses.

NOTES

1. But see later in this chapter for a hypothesis which imputes more substance to the absence of third singular -s in Black English. See also Henrie (1969:83,84), who argues that there are semantic implications in the nonuse of verb concord -s.

2. I accept Labov's (1969b) arguments that the absence of is and are for the great majority of Black English speakers is due to a phonological rule which deletes the remnants of contraction.

3. Given this meaning, it is possible to dream up contexts in which either of the starred sentences above would be accepted. If the time adverb right now refers to a sufficiently broad period of time, He be working right now is possible, as in He was unemployed last year, but right now he be working every day. It is also possible to imagine a rather metaphorical use of the term brother which would allow He be my brother, as He be my brother when he need money, but otherwise he don't be. The fact remains, however, that distributive be cannot be used with a punctiliar or permanent state meaning.

4. This imperative be usage is discussed in Muckley (1969). I once observed an interesting performance error by a white, standard English speaking man. Discussing his very active two-year-old daughter, he commented that having her around was more pleasant "when she sits down and be's

quiet." At this point he hesitated, amid the general laughter of his audience. Interestingly enough, there was no acceptable way for him to correct the sentence while still using be. "When she sits down and is quiet" would not do. The best acceptable paraphrase would be something like "when she sits down and keeps quiet."

5. The first linguist to notice that be in Black English has these three sources is Marvin Loflin (1967). I was guilty of an oversight in Fasold (1969b) for not citing his article. Inexplicably, Loflin (1970) seems to have moved to the much less defensible position that be has only one source.

6. William A. Stewart in 1966 (Stewart 1966:61, see Stewart 1971:48) was probably the first scholar to deal with the phenomenon in published literature.

7. If one accepts the analysis in which imperative be is derived from will be, then imperative be is tenseless for the same reason that be with modals is tenseless.

8. One conceivable test would involve the passive, in which the tense of the main verb in the active is transferred to a form of be in the passive. In standard English, the passive of He eats the pie is The pie is eaten by him; of He ate the pie, the passive is The pie was eaten by him. If the same tense transfer rule is assumed to apply to Black English, the expected passive of He eat the pie would be The pie be eaten by him. The author once tried such a test on a group of Black English speaking adolescents, but the problems are extreme. The passive in Black English is more likely to be formed with get than be, if it is formed at all. The language manipulation task is difficult to explain and understand. The tendencies to hypercorrect would militate against ever observing be. Most of the time, when the task was successfully performed, a conjugated be form was used, but one speaker did once supply a be passive for a present tense active sentence.

5 GRAMMATICAL AND PHONOLOGICAL VARIATION

5.0 General remarks. In the course of our investigation[1] of tense marking in Black English we have concluded that variable absence of -ed is to be accounted for phonologically, that the variable absence of the verb concord suffix -s is a phenomenon of shallow syntax, while the use of distributive be is a matter of deep syntax and semantics. We discussed at length in the previous chapter the reasons for which we draw such conclusions about be. It may be helpful at this point to recapitulate the reasons for our conclusions about -ed and -s, because it may be possible to find general principles on the basis of which variable phenomena can be ascribed to syntactic or to phonological causes. In order to carry out this review, it will at times be necessary to make reference to the two -s suffixes not investigated in this study (viz. the plural and possessive suffixes) and to rely directly on data from Wolfram (1969) and Labov et al. (1968) to make certain points.

5.1 Comparison of monomorphemic with suffixed forms. The most convincing criterion for distinguishing grammatical from phonological variables is comparson of monomorphemic forms with suffixed forms of the same general phonological shape. For example, the monomorphemic form tax compared with suffixed forms such as He tacks things to the wall, the tack's head, and the box of tacks. For the -ed suffix, the form past compared with phonologically similar forms such as They passed the hat,

He was passed over, and a green-grassed lawn. When these comparisons are made, important differences are seen. Figure 6 shows data on black peer-group members (adapted from Labov et al. (1968:161, Table 3-10a)), comparing monomorphemic forms ending in [s] with forms containing the three -s suffixes when the next word begins with a consonant, which is, in general, the environment most favorable to deletion. The absence of [s] from monomorphemic forms is almost negligible, while the plural and verb concord suffixes are deleted much more frequently.[2] Completely comparable data for the -ed suffixes compared with monomorphemic forms ending with [t] or [d] are not available. Wolfram (1969:62,68), however, provides us with some partially comparable data (see Figure 7). The bimorphemic forms all involve the -ed suffix, although not all the monomorphemic clusters end in [t] or [d]. It is clear from Figure 7 that there is less difference in amount of deletion between the monomorphemic and bimorphemic forms. Furthermore, the presence or absence of a following consonant affects simplification of bimorphemic clusters in the same way as it effects monomorphemic clusters, a phenomenon we shall examine in further detail later. The data in Labov et al. (1968) show the same sort of pattern for -ed absence compared with the simplification of monomorphemic clusters.

5.2 Phonologically conditioned alternants. If a suffix is deletable by virtue of its grammatical properties, the phonological shape of its alternants is presumably irrelevant, and it is to be expected that all forms will be deleted at comparable frequencies. On the other hand, if the absence of a suffix is due to the deletion of its phonological representations, then the form of its alternants may have a profound effect on the rate of deletion. The phonological shapes of the regular alternants of the -ed and -s suffixes are analogous.

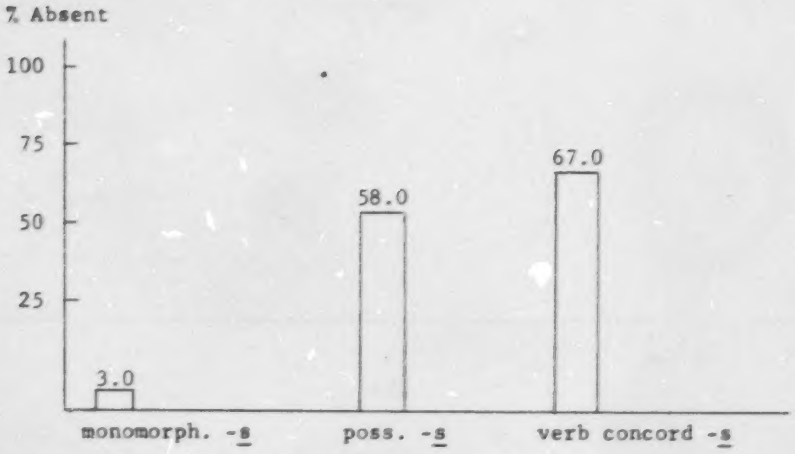


Figure 6. Comparison of the absence of three categories of final -s before consonants in the speech of adolescent peer groups, New York City.

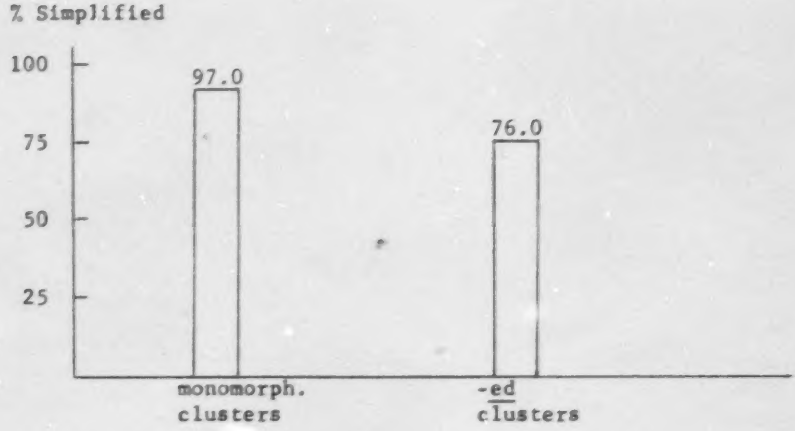


Figure 7. Comparison of monomorphemic and -ed cluster simplification before consonants in the speech of lower-working-class blacks, Detroit.

The -ed suffixes take the forms [t], [d] and [ɨd], and the -s suffixes take the forms [s], [z] and [ɨz]. When data on the absence of -ed are compared with data on the absence of verb concord -s, it is found that the phonetic shape of the suffix has no effect on -s absence[2], but has a profound effect on the frequency with which -ed can be absent. In particular, the bisegmental ([ɨz]) and the monosegmental ([z] and [s]) alternants of -s are deleted with equal frequency. For -ed, on the other hand, there is markedly less frequent deletion of the bisegmental alternant ([ɨd]) than of the monosegmental alternants ([d] and [t]). These results, taken from the Washington data, are illustrated in Figure 8.

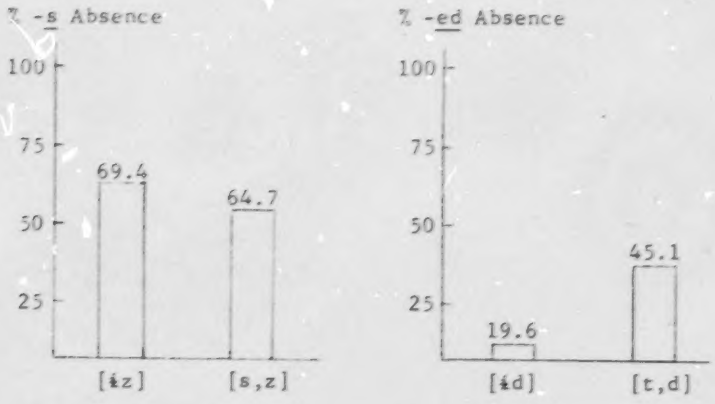


Figure 8. Comparison of verb concord -s and -ed absence by morphemic alternants, Washington, D.C.

Such results are consistent with the hypothesis that verb concord -s is deleted by a single syntactic rule which applies before the suffixes are assigned their phonetic shapes by the phonological component of the grammar. The -ed suffixes are deleted by separate phonological rules in which the phonetic shape of the suffix is of crucial importance. In fact, the

bisegmental alternant, as we have seen, is deleted by a series of rules, most of which are present in standard dialects of American English. The monosegmental alternants are deleted by a single variable rule, the final t,d deletion rule. These observations are predictable, as is illustrated in Figure 9.

	Suffix -s		Suffix -ed	
	[ɨz]	[s,z]	[ɨd]	[t,d]
Syntactic base form	crash+Z	ride+Z walk+Z	want+D	charge+D talk+D
Syntactic deletion rule (variable)	crash+Z ~ crash	ride+Z ~ ride walk+Z ~ walk		
Vowel epenthesis + voicing assimilation	[krǽsɨz] ~ [krǽs]	[raydz] ~ [rayd] [wɔks] ~ [wɔk]	[wantɨd]	[čarǰd] [tɔkt]
Rules affecting [ɨd] deletion (variable)			[wantɨd] ~ [want]	
Final stop deletion rule (variable)				[čarǰd] ~ [čarǰ] [tɔkt] ~ [tɔk]

Figure 9. Sequence of rules governing the variable presence and absence of the morphemic alternants of verb concord -s and -ed.

Since the [ɨz] of crashes, the [s] of walks, and the [z] of rides are all deleted by the same variable rule, it is to be expected that there will be no significant differences in frequency of deletion based on the different phonological shapes of the alternants. But since the suffix [ɨd] of wanted is deleted by a set of rules distinct from the rule which deletes the [t] of walked and the [d] of charged, with a different frequency level of operation, it is not surprising that marked

frequency of deletion differences are observed, depending on the shape of the suffix.

5.3 Irregular forms. A similar argument can be made, based on the analysis of irregular forms. A fairly large number of English verbs do not form their past tenses, past participles, and derived adjectives by suffixation, e.g. give, know, do, sit. There are three verbs for which the present tense is not formed by suffixation alone. These verbs are say, have and do, of which the present tense forms when the subject is third person singular are [sɛz], [hæz], and [dəz] rather than the expected [sɛ͡ɪz], [hævz], and [duz]. A large number of instances of verbs with irregular past forms were extracted from the Washington data, along with numerous instances of present tense have and do. Irregularity of formation proved crucial for the grammatical functions of -ed, but negligible for the functions of -s (see Figure 10[4]). In the case of -ed, irregular verbs almost always take their standard forms; almost never, for example, is know used for knew in a past context. The regular forms underwent the deletion of -ed in nearly 40 percent of the instances. In the case of -s, there is a less than 2 percent difference in deletion frequency between have and do and the regular forms.

These results are again consistent with the assumption that the -s suffixes are deleted in the syntactic component while the -ed suffixes are deleted phonologically. Figure 11 illustrates the sequence of application of the relevant rules. If the -s morphemes are deleted in the syntactic component before irregular verb formation, the fact that the verb is irregular has no relevance for deletion. If, as in the case of the verb know, the irregular verb formation creates a form which is not even subject to a subsequently applicable phonological deletion rule, the fact that the verb is irregular has a

tremendous effect on frequency of deletion. Both expected results are observed in the data.

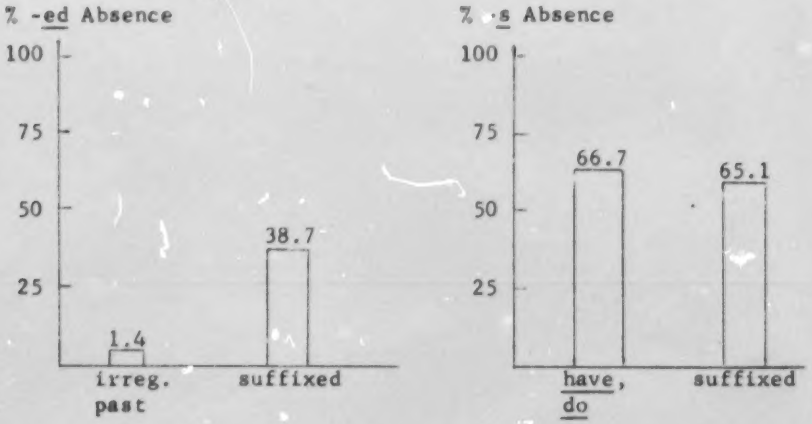


Figure 10. Comparison of regular and irregular forms of -ed and verb concord -s, Washington, D.C.

5.4 Independent treatment of dual processes. A related and even more convincing argument that one suffix is absent for grammatical reasons while the other is absent for phonological causes also has to do with irregular forms. There are verbs which are marked for tense both by the regular suffix and by a vowel change in the base. Only two are irregular in this way when suffixed with -s (viz. do and say), but a fair number are irregular when suffixed with -ed (e.g. tell, keep). If the absence of verb concord -s were due to a phonological deletion rule, one would expect to find a large number of instances of the forms [də] and [sɛ]. This would mean that the phonetic representation of -s had been deleted after the morpheme had triggered the vowel changes. But in fact this is not the case; speakers use either he do or he say or the fully standard he does and he says.[5] This leads to the conclusion that, if the suffix is to be absent at all, it is absent prior to the application of the rules for changing the vowels.

	Suffix -s		Suffix -ed	
	reg.	irreg.	reg.	irreg.
Syntactic base form	walk+Z	do+Z	move+D	know+D
Syntactic deletion rule (variable)	walk+Z ~ walk	do+Z ~ do		
Vowel change rules		doe+Z ~ do		knew+D
Suffix formation rules	walks ~ walk	does ~ do	moved	knew
Phonological deletion rules (variable)			moved ~ move	

Figure 11. Sequence of rules governing the variable presence and absence of regular and irregular manifestations of verb concord -s and past tense -ed.

The exact reverse of this takes place in the case of verbs like tell and keep, which have -ed suffixed forms which contain both a vowel change and the phonetically appropriate form of the -ed suffix, i.e. kept and told. In this case, it is not observed that both the vowel change and the suffix are either both present or both absent, giving either He tell it yesterday and He keep it yesterday, or He told it yesterday and He kept it yesterday. In fact, forms like tell and keep in past contexts are almost nonexistent. But it is very common to observe instances in which the vowel change has taken place but the suffix is absent, giving He tol' it yesterday and He kep' it yesterday. This observation supports the conclusion that the -ed suffix is grammatically present when the vowel change rules operate, but that its phonological representation is often subsequently removed.

5.5 Grammatical function. If a form is deletable on the basis of its grammatical properties, it is possible that varying grammatical functions for phonologically identical suffixes will have a great effect on frequency of deletion. This would not necessarily be the case, since there could be more than one grammatical deletion rule with about the same frequency rate of application. As it happens, however, the three grammatically distinct -s suffixes are deletable at different frequency rates. Figure 12 illustrates this fact, from Wolfram's data (Wolfram 1969:136, 141, 143).

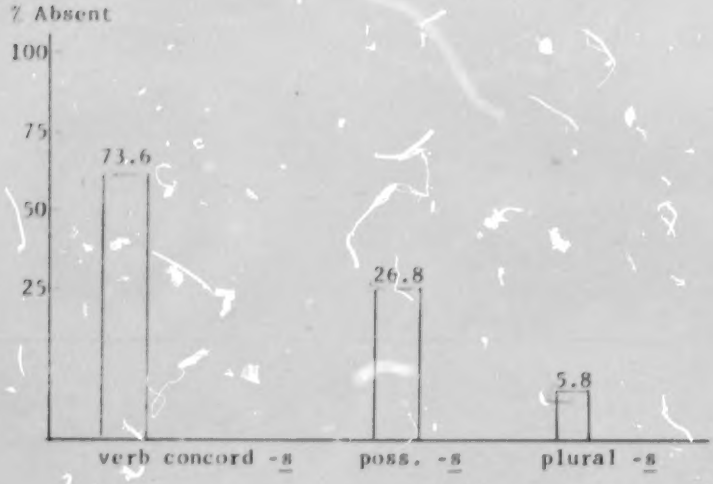


Figure 12. Comparison of the three -s suffixes in the speech of lower-working-class blacks, Detroit.

By contrast, the grammatical functions of -ed have a much smaller effect on the absence of that suffix. The effect is not negligible, since grammatical factors not uncommonly partially constrain phonological rules, but the magnitude is smaller. Figure 13 shows the comparison of -ed absence when it marks past tense with its absence when marks past participles

or derived adjectives. Figure 13 displays the combined data on -ed after a vowel and -ed involved in final consonant clusters (see chapter 2).

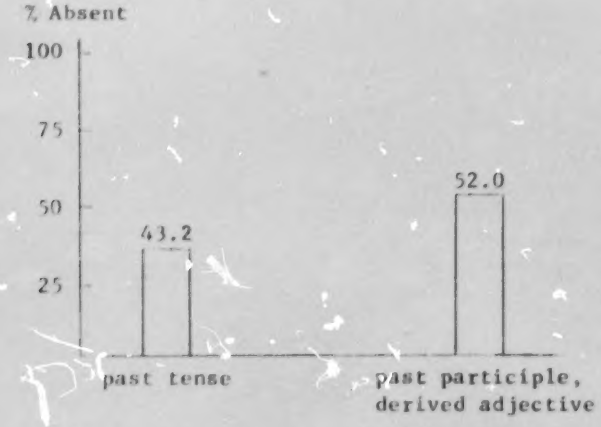


Figure 13. Comparison of -ed absence when representing past tense and when representing past participles or derived adjectives, Washington, D.C.

5.6 Phonological constraints. A rule which is phonological rather than grammatical can be expected to be sensitive to a number of variable constraints. These will be hierarchically ordered and will tend strongly to be the same constraints from population to population. We have already attempted to show hierarchical ordering of constraints and their consistency in data from populations drawn from three cities with respect to final consonant cluster simplification. By contrast, phonological constraints will not be found to effect frequency level in a regular fashion if the rule involved is grammatical. Data on the absence of verb concord -s was searched in the New York, Detroit and Washington data but hierarchically ordered constraints were not found. A following vowel seemed to promote deletion of verb concord -s in Labov's New York data, but to inhibit it in the data from Detroit and Washington. It can

be expected, then, that phonological environment can appear to have differing effects on grammatical rules from one speech sample to another.

5.7 Hypercorrection. Hypercorrection is an example of rather indirect evidence about the grammatical or phonological status of a variable linguistic phenomenon. Hypercorrection comes about when speakers are learning a form from a new linguistic system and have not mastered all the constraints on its use. As a result, they are likely to extend its use to contexts in which the form is never used by native speakers of the language or dialect in which the form originates. An example is the use of the yod on-glide before [u] in some words in the prestige dialect of American English. The speakers of this dialect pronounce the word due as [dyu] where other dialects have [du]. In attempting to acquire the prestige pronunciation, [du]-speakers are likely to use the yod on-glide in words in which [dyu]-speakers would never use it; for example, the news broadcaster who announces "The news [nyuz] at noon [nyun]".

If a form is not present in a person's linguistic structure, and if there is motivation to learn the form, hypercorrection in its use can be expected. If, on the other hand, a form is present at deeper levels of a person's linguistic competence but is deletable by relatively low-level phonological rules, it can be expected that the person knows all the constraints on the use of the form and hypercorrection would not be expected. To return to the case at hand, we would expect hypercorrection in the -s suffixes, but not in the -ed suffixes, if it is the case that -s absence is syntactic and -ed absence is the result of low-level phonological processes. These expectations are borne out in the observed data. The hypercorrect use of verb concord -s is a well-known

phenomenon, resulting in such sentences as They goes home and I works here. In Washington, in the speech of people who use hypercorrect forms, over 13 percent of all present tense verbs with nonthird person singular subjects were inappropriately suffixed with -s. While Labov and Wolfram do not give percentage figures, they report that hyper-s is common in New York and Detroit as well. Hypercorrection of the possessive suffix is also fairly common. Some speakers inappropriately use possessive -s with both the given name and surname in full personal name constructions; others attach the suffix to the given name and not the surname. The result is phrases like Jack's Johnson's car and Jack's Johnson car. Preliminary analysis of the Word Game data elicited in Part II of the questionnaire shows some speakers demonstrate lack of competence in possessive -s suffixation by substituting an irregular plural form for the regular possessive form. Thus, in place of mouse's cheese, they give mice cheese. As far as the plural inflection goes, the frequency of deletion is so low that there can be no doubt that the overwhelming majority of speakers have plural -s as part of their linguistic competence. However, the evidence shows that the deletion is syntactic, not phonological. Since there is not much question about the presence of the plural -s suffix in the competence of most dialect speakers, hypercorrection is not to be expected. Hypercorrection also appears to occur in such double plurals as peoples, childrens, and mens, but these forms are probably to be regarded as the expected irregular plurals for these forms among some dialect speakers, rather than as hypercorrection. The origin of these plurals, in all likelihood, is hypercorrection at an earlier stage in the development of Black English, at which plural -s was not part of the structure.

Hypercorrection is best understood if we assume that the

speakers who demonstrate this behavior do not have a rule for the insertion of the -s suffixes to mark possession and present tense concord, rather than having a rule to delete the suffixes at the syntactic level. When they do use the suffixes, it is by guesswork rather than by following internalized rules. In any event, hypercorrection is one kind of evidence that the -s suffix is not present at the point at which the phonological rules operate, though because it was never inserted rather than because it was deleted. It is likely that there are non-standard dialect speakers of two types: those whose rules do not call for insertion of possessive and verb concord -s, and those who insert the suffix but who have a variable syntactic deletion rule which allows them to remove some instances.

Hypercorrection of the -ed suffixes occurs, but very rarely. An occasional speaker will use a form like liketed or workted, but this is not very common and seems more typical of children's speech than adults'. There were less than ten hyper-ed forms in the more than 500 examples in the Washington data. Labov reports that hyper-ed is infrequent and limited to a few speakers in his New York data. Hyper-ed is not mentioned at all by Wolfram for the Detroit data. The data on hypercorrection tend to confirm the conclusion that two of the -s suffixes have a relatively tenuous place in the syntactic structure of the dialect of some speakers, but that the -ed suffixes are firmly within the linguistic competence of almost all Black English speakers.

5.8 Summary. Taken together, the seven arguments of this chapter point overwhelmingly to the conclusion that the absence of the -s suffixes is syntactic while the deletion of -ed is phonological. In the process of marshalling arguments for the particular case at hand, we have suggested principles

by which the origin of variable phenomena might be distinguished in other cases, in English and in other languages.

NOTES

1. This chapter is an expanded version of Fasold (1971).

2. Because the plural suffix is deleted so infrequently (only 8 percent deletion in Labov's data), this argument is not convincing in the case of plural -s deletion.

3. Carolyn Kessler (see this volume, pages 223-237) found that the alternants of plural -s did have something to do with deletability. However, Linda Sobin (1971) was not able to replicate these results on another set of -s plural data in Black English.

4. The figures represent an aggregate of all -ed suffixes, while the figures on -s represent verb concord -s only. This has very little effect on the final results, since syntactic function has little effect on deletion frequency of -ed. Instances of say forms were not extracted, since many of them would not be distinguishable from instances of said from which [d] had been deleted by the final stop deletion rule.

5. This is a slight oversimplification; there is a phonological rule for the deletion of final -s which operates at very low frequency levels. But the argument given here holds for the overwhelming majority of cases.

6. Labov's data are less clear on this point (cf. Figure 6). There is a less than 10 percent difference between the deletion of possessive and verb concord -s. Plural -s deletion is much lower than either of the other two suffixes; it is deleted only 8 percent of the time (cf. note 2).

6 CORRELATION WITH SOCIAL FACTORS

6.0 General remarks. It is now well-known that some linguistic features correlate strongly with social factors. Recent work has gone beyond simple documentation and has led to insights into the interrelation of the influence of social factors on speech and the nature of linguistic change (e.g. Labov 1966a, 1966b, forthcoming; Bailey MS). The purpose of this chapter, however, will be the more modest one of demonstrating that the linguistic features examined in the preceding chapters are sensitive to extralinguistic attributes of speakers and hearers.

In the following discussion we shall treat the absence of -ed when suffixed to verb bases ending in a vowel (e.g. showed, tried) as a separate feature from the absence of -ed from verb bases ending in a consonant (e.g. ripped, rubbed), even though we have tentatively adopted a solution by which the phonetic representations of -ed are deleted by the same rule in both cases. The major reason for this is that the data were extracted and tabulated in this way before the linguistic analysis was carried out and it would have been difficult to recombine the data. Furthermore, further research may well demonstrate that the correct solution will call for separate rules for the two cases. In the ensuing discussion, [d]-deletion will refer to cases of -ed absence when the verb base ends in a vowel. Cluster simplification will refer to cases of -ed absence when the verb base ends in a nonapical consonant, where -ed is

phonetically either [t] or [d] and is the second member of a final consonant cluster when present.

6.1 Social stigmatization. In his monumental study of New York City English, Labov (1966a) discovered that linguistic features which bear social significance will show parallel behavior along both a social class continuum and a style continuum from less formal to more formal styles. In particular, a feature that is more common in lower than in upper social classes will also be more common in less formal styles than in more formal styles, for all speakers. Figure 14 is a hypothetical illustration of the typical pattern for a stigmatized feature, assuming two social classes and two styles. For the features which proved to be phonological -- [d]- deletion,

Social Class	Styles	
	Informal	Formal
Middle	intermediate frequency	low frequency
Working	high frequency	intermediate frequency

Figure 14. Distribution of a stigmatized linguistic feature; by social class and style.

[id]-deletion, and final consonant cluster simplification -- we have both class and style data. By comparing the four adolescents and adults of the upper-class control sample with the adolescents and adults of the working-class, it was possible to get a clear picture of class stratification. By considering the interview data as a relatively informal style and the connected reading data as a formal style, it was possible to observe style stratification.

6.1.1 Phonological features. Figure 15 shows the class stratification pattern for [d]-deletion and cluster simplification. In both cases, there is clear evidence that the

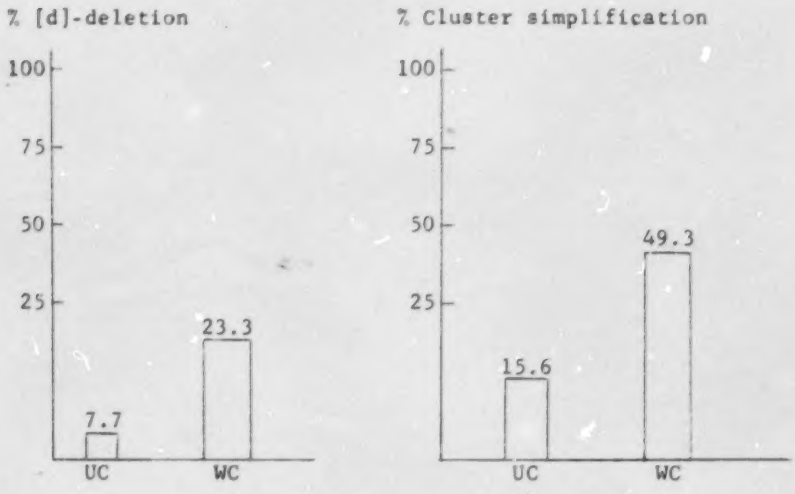


Figure 15. Class stratification of [d]-deletion and final consonant cluster simplification; upper class and working class compared.

feature is stigmatized, since the working-class speakers exceed the upper-class speakers by wide margins.[1]

Because the sample is so small, it was not possible to get a reliable measure of style stratification for the upper-class control sample. Such a measure would not be strictly necessary, having established class stratification, if the same two features can be demonstrated to show style stratification within the working class. But there was a special problem in obtaining a measure of style stratification for [d]-deletion. As was mentioned in chapter 2, the presence or absence of final postvocalic [d] could not always be definitely determined when the next word began with an alveolar stop or dental spirant. In many cases it was possible to state with a

high degree of certainty that the final [d] was not deleted. Other cases were indeterminate: it was not possible to determine with the same degree of certainty that the [d] was deleted. As a result, it was possible to compare [d] presence with indeterminate cases, instead of comparing simply presence and absence. But the reading passage, which was written before it was decided just which features would be carefully analyzed, contains only one example of final postvocalic [d] representing -ed, and that one, unfortunately, occurred before the alveolar stop [t]. The sentence was The first time I tried to bake a cake, I burned it, was tried as the relevant example. But an indication of style stratification can be derived by computing the proportion of indeterminate cases to cases in which [d] is clearly present. It would be expected that the percentage of indeterminate cases would be higher in this environment than the percentage of clear absences in other environments, but that the percentage of indeterminate cases would be lower in the less formal interview style than in the more formal reading style. Of the forty-seven working-class speakers, reading samples were procured for forty. Only ten cases (25 percent) were judged indeterminate; the remaining thirty clearly pronounced the final [d] of tried despite the following to. As it happened, there were also exactly forty examples of final postvocalic [d] representing -ed in indeterminate environments in interview style for the working-class speakers, but in this style, twenty-six (65 percent) were indeterminate.

These results are displayed in Figure 16. The style stratification pattern is clear, although not statistically significant.

A similar pattern of style stratification was observed for final consonant cluster simplification (see Figure 17). In this case, simplification is significantly lower in frequency

in reading style than in interview style ($X^2 = 5.52$, $p < .05$).[2]

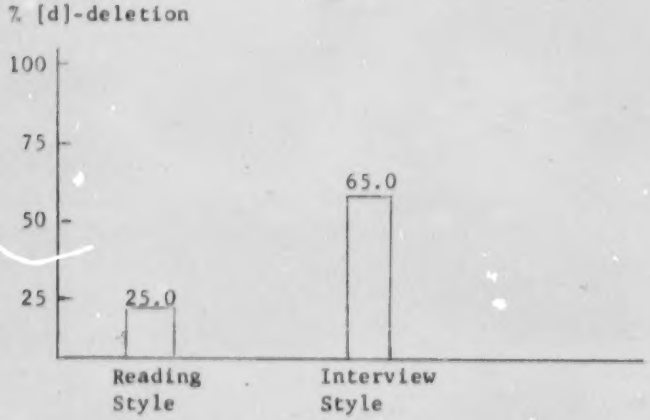


Figure 16. Style stratification for [d]-deletion in the working class, based on indeterminate cases.

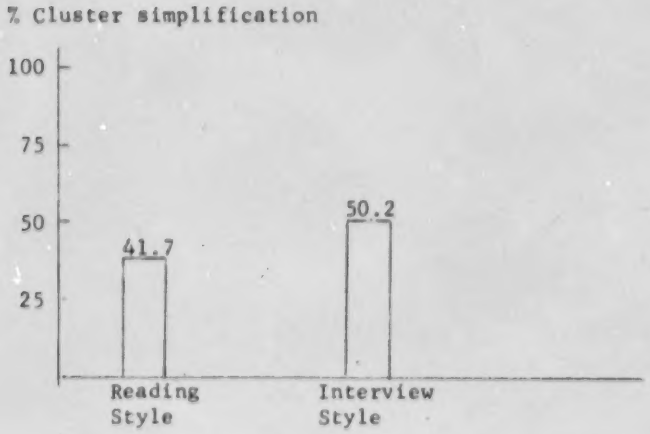


Figure 17. Style stratification for final consonant cluster simplification in the working class.

Two interesting facts emerged in connection with style. First, the two phonological constraints for which there were enough data in the reading passage for a meaningful analysis

worked out the same way as they had in interview style. Clusters were simplified in 50 percent of the instances when not followed by a vowel, but in only 26.5 percent of the instances when a vowel followed. The final cluster in the irregular form told, which appeared only when followed by a consonant, was simplified 60.3 percent of the time, while other clusters not followed by a vowel were simplified only 43.4 percent of the time. This is further evidence for the generalizability of the constraints. Second, while almost no one pronounced the full cluster [md] in named in narrative style, the cluster was intact 34.2 percent of the time in reading style. This was taken to indicate the successful oral reading of an essentially "foreign" word.

The available data on the deletion of [ɨd], though scanty, show a quite different pattern from the one found for [d]-deletion and final consonant cluster simplification. Of the four explanations for [ɨd] absence given in chapter 2, we will concentrate on the two processes which involve the two rules for deleting [ɨ], i.e. the derivations responsible for the pronunciations [wɑnd] for wanted and [stad] or [stɑ] for started. If we examine the rules postulated for these two processes, we notice that the flap n and flap d rules are well-known standard English rules and are not particularly stigmatized. The consonant shortening rule is almost always applied after either of the two [ɨ]-deletion rules. There is not enough variability involved to give a reliable picture of social significance. Geminate cluster reduction can have no social significance, since it is not a variable rule. The two assimilation rules involving to are only peripheral to our interests here and will not be analyzed.

This leaves the [ɗ]-deletion rule, the two [ɨ]-deletion rules, and the second [d]-deletion rule. Of these, it is clear that [ɗ]-deletion and [ɨ]-deletion ([n]-lengthening)

are crucial. Once [d̆]-deletion has applied, both [ɨ]-deletion ([d]-lengthening) and consonant shortening are almost always applied, so [d̆]-deletion causes most of the variation for that derivation. After [ɨ]-deletion ([n]-lengthening), consonant shortening is almost always applied, so most of the variation in this derivation is caused by the vowel deletion rule. The determination of social stigmatization for these two rules, then, will give a clear picture of the social significance of most cases of [ɨd] absence.

When social class stratification for [d̆]-deletion was tabulated, it was found that the working-class adolescents and adults had applied the rule eight times out of fifty potential cases, or 16 percent. The four upper-class control group speakers had six opportunities to apply [d̆]-deletion and applied it twice, or 33 percent. The number of cases is small for the control group, but the indication is that [d̆]-deletion is not stigmatized.

In chapter 2, we found that most of the evidence for [d̆]-deletion involved the word started. It would seem logical to examine the possibility that this one lexical item is skewing the data inordinately. Inspection of the data showed that the really interesting comparison was not between started and other verbs but between verbs before the gerundive VERBing (where only started appeared) and verbs (including a few instances of started) in all other environments. Before VERBing, [d̆]-deletion is applied by the working-class adolescents and adults five out of eleven times, or 45.4 percent. In all other environments, it is applied in only three out of forty-seven potential cases, or 6.4 percent. None of the six cases in which [d̆]-deletion was possible in the control group data involved verbs preceding the gerundive construction. Comparing the really comparable figures, the working-class speakers appear more conservative in their application of [d̆]-deletion

than the upper class by an even wider margin, 6.4 percent, as against 33 percent.

Turning to style stratification, it was possible to tabulate two opportunities for the application of [d]-deletion, to the verb decided in I decided to make a robe, and to hated in One class I hated was health class. Thirty-one working-class speakers successfully read these two sentences -- a total of sixty-two opportunities. In nine cases, the rule was applied, or 14.5 percent.[3] Neither of these verbs appeared before the gerundive, so this figure is comparable to the 6.4 percent tabulation in interview style.[4] Although the data are scanty, both measures of social stigmatization converge on the conclusion that [d]-deletion, and the resulting absence of [id], are not stigmatized and that it is not an exclusively Black English rule.

The same pattern was found for [ɪ]-deletion ([n]-lengthening). Of forty-two potential cases, the rule was applied to ten verbs by the working-class adolescents and adults, or 23.8 percent. It was applied to two of the four cases in the interview data on the upper-class sample, or 50 percent. The small amount of data makes conclusions difficult, but supports the impression that the application of this rule, with the resulting absence of [id], is also not stigmatized.

Since most of the evidence for [ɪ]-deletion ([n]-lengthening) is derived from examples with wanted, these data should be examined for the possibility that wanted is a special case. Of thirty-eight examples, the rule was applied to nine, or 23.7 percent. It was applied to one of the four cases involving other eligible verbs, or 25 percent. Insofar as any conclusion can be drawn, it appears that the abundance of wanted examples does not distort the facts.

There were no potential instances for application of [ɪ]-deletion ([n]-lengthening) in the reading data, so no

evidence for style stratification is available. The data which are available indicate that for both major processes by which [id] can be eliminated, there is no social stigma involved and that either applies as well in standard English as in Black English.

6.1.2 Grammatical features. When we turn to the grammatical features -- verb concord -s absence and the use of distributive be -- it is no longer possible to observe style stratification, given the nature of the Washington data. In order to measure distributive be in reading style, it would have been necessary for the readers to interpolate be for some instances of the present tense forms of to be on the printed page, and this never happened. In the case of verb concord -s absence, however, there actually were cases in which the printed -s was not read. These cases were less frequent than -s absence in interview style, giving the appearance of style stratification in the predicted direction. However, as R.K.S. MacCaulay (1969) pointed out in his review of Wolfram (1969), a lower frequency of absence of an inflection like -s may be an artifact of the reading passage. That is, since the -s is orthographically represented on the printed page, it may be illegitimate to compare a person's performance while reading to his performance while responding to interview questions and attribute the differences to style.

Even if style stratification evidence is not available, class stratification for both grammatical features is extremely apparent. In both cases, the nonstandard form is variably present in the speech of the working-class adolescents and adults and totally absent in the speech of the upper-class control sample (see Figure 18).

In correlating distributive be with social factors, there is a problem which does not arise in the cases of the other

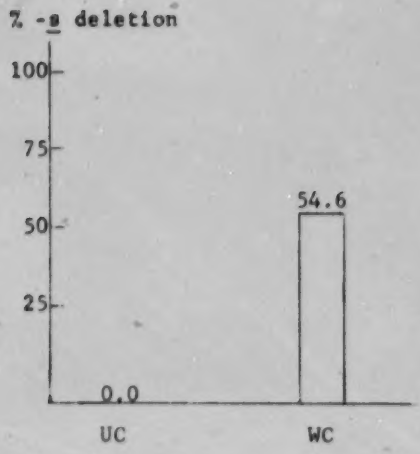


Figure 18. Class stratification of verb concord -s deletion; upper-class and working-class compared.

features discussed. For -ed or -s absence, there is for each nonstandard utterance an isomorphic standard equivalent. For He move' it yesterday the standard equivalent is He moved it yesterday; similarly He move it every day is matched by He moves it every day. But for the distributive be sentences, there are no exact equivalents in the standard dialects. It is not possible to translate He be at home as He's at home; the two sentences mean different things.

For our social factor analysis, we adopted a different kind of tabulations from the kind used so far. First, we determined the percentage of speakers in a given category who used distributive be, as against the speakers in that category who did not. This gave us a measure of be-users. But since a speaker who used a single instance of distributive be would be counted as much a user as would a speaker who used fifteen, we also needed a measure of frequency of use in the various social categories. To obtain this, we divided the number of instances of distributive be in a category by the number of speakers in

that category who used it. This gave us an instances-per-speaker ratio. To establish social stigmatization, we needed only compare the percentage of speakers in the upper-class control sample who used distributive *be* to the percentage of working-class adolescents and adults who used the form at least once. The result is displayed in Figure 19.

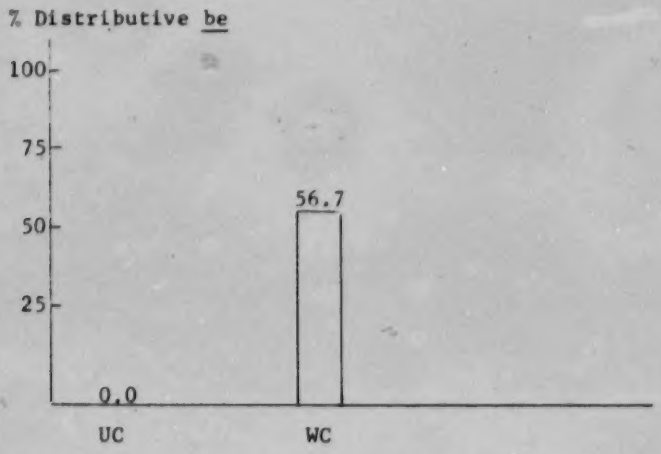


Figure 19. Class stratification of distributive *be*; upper-class and working-class compared.

If the Word-Game data are added, a somewhat broader picture emerges. Of the forty-seven speakers in the working-class sample, only seven did not use at least one instance of distributive *be* in the narrative section *or* supply a form of *do* in their response to either *Sometime Joseph be up there* or *Sometime my ears be itching*. By contrast, the upper-class control sample had no examples of distributive *be* in the narrative section. One of the four upper-class speakers (the adult male) supplied *do* in the response to *Sometime my ears be itching*, but he laughed after giving the response. In short, comparison of the working-class with the upper-class sample reveals that distributive *be* has all the characteristics of a socially stigmatized linguistic feature.

6.2 Further covariation with social class. Our discussion so far has shown that two phonological and two grammatical features are socially stigmatized, partially based on the fact that the apparently nonstandard form is less frequent or absent in the speech of the upper-class while it is more frequent in the speech of the working-class. The pattern of covariation with social class can be carried a step further by comparing the data on the upper-working-class with the lower-working-class. In order to tabulate these data, we removed the ten speakers who fell between our criteria for upper- and lower-classes, leaving only those speakers who were clearly members of one class or the other. The general pattern which emerged confirms Wolfram's (1969:204) observation that sharp stratification (statistically significant differences between contiguous social classes) is characteristic of grammatical features, while gradient stratification (relatively slight differences between contiguous classes) tends to be associated with phonological features (see Figure 20). For both [d]-deletion and final consonant cluster simplification, the

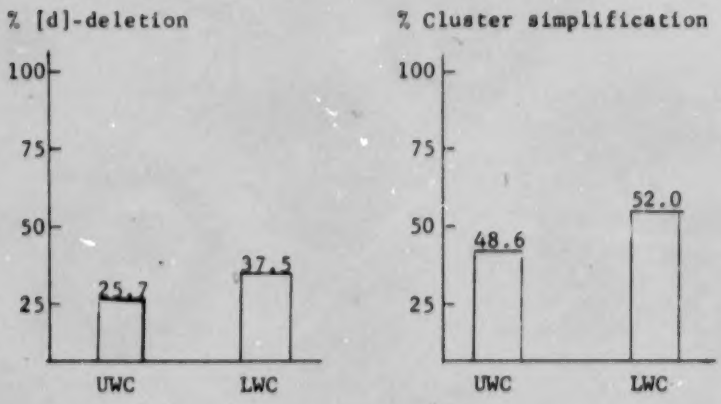


Figure 20. Class covariation of [d]-deletion and final consonant cluster simplification.

difference between the upper-working-class and the lower-working-class is small and statistically nonsignificant, although both stigmatized features are more frequent in the lower-working-class than in the upper-working-class.

Class covariation of verb concord -s deletion is a clear case of sharp stratification (see Figure 21). The difference between

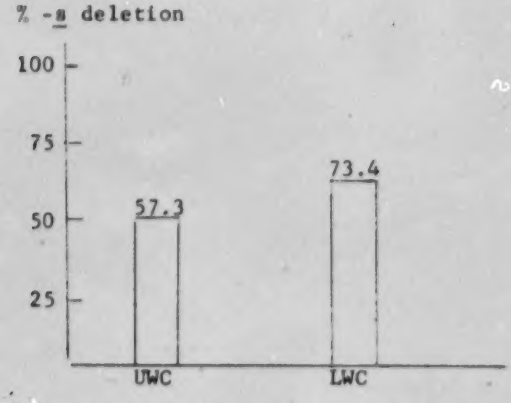


Figure 21. Class covariation of verb concord -s deletion.

the frequency of deletion in the upper-working-class is statistically significant ($X^2 = 13.65$, $p<.001$).

For distributive be, a rather clear difference between the upper- and lower-working-classes emerges. Disregarding marginal speakers, we find 56.3 percent of the upper-working-class using be, as against 81.0 percent of the lower-working-class. However, these figures are vulnerable to distortion due to the imbalance of the sample. We pointed out in chapter 4 that the topics raised in Section II of the interview favored the use of distributive be by children. When we observe that the lower-working-class sample has quite a few more children than does the upper-working-class sample, it becomes a distinct possibility that what appears to be a class difference is simply an artifact of the combined biases of the sample and of the

interview questionnaire. When we remove the child speakers from both groups, we remove both biases to a large degree. The upper-working-class has eight adolescents and three adults, and the lower-working-class has seven adolescents and four adults. When these speakers were examined, the class difference remained in the right direction, but the picture was much less convincing. Five of the eleven upper-working-class speakers used distributive be, while for the lower-working-class the figure is seven of the eleven. The upper-working-class speakers used the form somewhat more frequently (an average of 3.8 instances per speaker) while the average per speaker in the lower-working-class is only 2.3. It appears that we do not have data to show that the distributive be feature correlates with class differences between the upper- and lower-working-classes.

6.3 Covariation with age. In every case, the four socially stigmatized features covaried neatly with age -- at least apparently. Children had the highest frequencies of the stigmatized variants, adults the lowest, and adolescents had intermediate frequencies. Figure 22 shows the results for [d]-deletion, consonant cluster simplification, and verb concord -s deletion. The distribution by age for verb concord -s deletion is highly significant ($X^2 = 40.20$, $p < .001$). It may be noted that the deletion rate for [d]-deletion in the speech of adolescents is closer to the rate for adults than to the rate for children, but the exact reverse is true of the figures on cluster simplification. This result is no doubt simply a peculiarity of the data sample.

For distributive be, the age covariation data resembles the data on the other features, but is again marred by the fact that the interview questions favor the use of distributive be by the younger speakers. Of the working-class children,

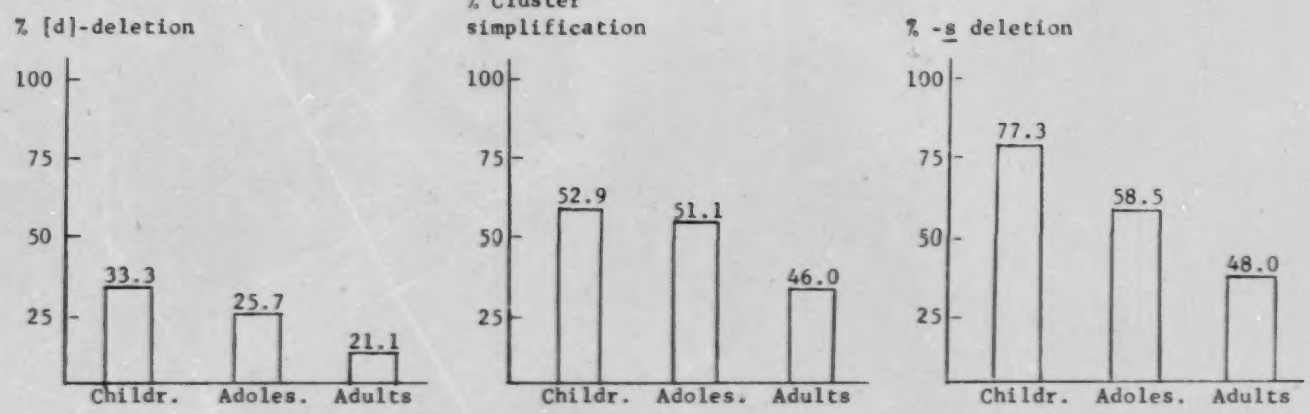


Figure 22. Age covariation for [d]-deletion, final consonant cluster simplification, and verb concord -s deletion.

85.9 percent use distributive be, as against 68.8 percent of the adolescents and only 25 percent of the adults. Also, the younger the speaker, the more frequent the usage. Among the children, the average is 4.7 instances per speaker, while for the adolescents the figure is 3.1, and for the adults, 2.7. While it is possible that these figures reflect only the topical bias of the questionnaire, it is certainly the case that the data on distributive be do nothing to contradict the tendency for socially stigmatized features to be more common the younger the speaker.

6.4 Covariation with race of interviewer. Anshen (1969) was able to show that nonstandard forms are more likely to appear in the speech of black speakers when interviewed by a black interviewer than when interviewed by a white. His results were largely replicated in the Washington data, despite the fact that most of the black interviewers were middle-class, standard English speaking young women (a few were conducted by a working-class black man). The results for [d]-deletion, cluster simplification, and verb concord -s deletion are shown in Figure 23. The difference is significant in the case of [d]-deletion ($X^2 = 4.81$, $p < .05$).

Unlike the results for the other three features, a higher percentage of speakers who were interviewed by white interviewers used distributive be than those who were interviewed by black interviewers--67.7 percent, as against 62.5 percent. However, the speakers who used distributive be at least once were somewhat freer in their use of the form when talking to a black interviewer. Those interviewed by black interviewers averaged 4.7 instances per speaker; those who talked with a white interviewer had an average of 3.4.

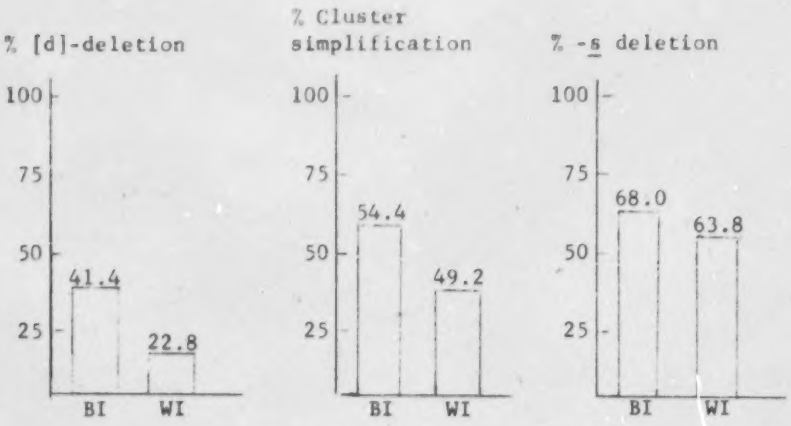


Figure 23. Covariation with race of interviewer for [d]-deletion, final consonant cluster, and verb concord -s deletion.

6.5 Covariation with sex. One of Wolfram's conclusions (1969:215) was that female speakers have lower frequencies of the use of stigmatized forms than do male speakers. Sex in the Washington working class data, however, correlated very poorly with stigmatization. For cluster simplification and -s deletion, and for those speakers who used distributive be, the figures for male and female speakers were virtually identical. Men and boys simplified final clusters in 50.1 percent of possible instances; the figure for women and girls was 50.7. Female working-class speakers had -s absence in 64.8 percent of 216 examples, while male speakers showed very slightly more absence, 65.5 percent of 423 examples. Exactly two-thirds of the men and boys used distributive be at least once, compared to 64.7 percent of the women and girls.

For [d]-deletion, the difference was much greater, but not in the predicted direction. Women and girls deleted final [d] after a vowel nearly twice as often as did men and boys. Much of this apparent discrepancy was due to the fact that

there were many more children among the female speakers than adolescents or adults, and, as we have seen, children have a tendency to use stigmatized features more often than do older speakers. When adult men and women alone were compared, the results were nearly identical; the men deleted [d] 20.7 percent of the time, compared to 22.2 percent for the women.

The age imbalance also had its effect on the sex tabulations of the frequency of use of distributive be. The average female speaker had 5.2 instances in her interview, while the male rate was only 3.3 instances. The higher figure for women and girls is due largely to three of the 10-12-year-old girls; two of them used be ten times each and the third used the form fourteen times (more than any other speaker in the sample). It is interesting to note that although three of the eight adult men used the form, none of the four adult women used it at all.

6.6 Conclusion. The attempt to show correlations of the linguistic features examined in this study with social variables largely succeeded in confirming the results of previous studies. The two grammatical features investigated--verb concord -s deletion and distributive be--were found to be socially stigmatized. Of the three categories of -ed deletion investigated, [d]-deletion and cluster simplification were found to be stigmatized, while the major processes effecting [id]-deletion could not be demonstrated to be so. There were persistent problems in the social class analysis of distributive be, but the other three stigmatized features correlated in expected ways with social class, age, and race of the interviewer. There was nothing in the data on be to contradict such correlations with this feature either, although the data are subject to other interpretations. It was not possible to show that female speakers are more conservative than male

speakers in their use of stigmatized features; either there was no difference or the difference appeared to be in the *opposite direction.*

NOTES

1. The evidence for class stratification of [d]-deletion is limited to one case of deletion out of thirteen opportunities for the upper-class, although the figure for the working-class is based on seventy-three opportunities. In the data on cluster simplification, however, there are forty-five opportunities for simplification in the speech of the control sample and no fewer than 229 opportunities for the working-class.

2. The difference, though smaller in percentage than in the case of [d]-deletion, is significant here but not for [d]-deletion because there are many more examples of cluster simplification than of [d]-deletion. In interview style, there were nearly 400 cases to which cluster simplification could have applied; in reading style there were 295 potential instances.

3. Always applied to decided, adding weight to the impression that the clause-end position, as in the hated case, tends to sharply inhibit the application of the [d]-deletion rule.

4. Further evidence in support of the lack of stigmatization for this rule comes from the fact that the upper-class speakers apply [ď]-deletion in reading style two out of eight times.

   Although [ď]-deletion was not inhibited by the formality of reading style, the two follow-up rules, [ɨ]-deletion ([d]-lengthening) and consonant shortening were not applied in several cases. They are almost always applied in interview style.

7 CONCLUSION

7.1 The four research questions. In chapter 1 we posed four questions to which the study would be addressed. We are now in a position to provide answers to each of them.

7.1.1 The status of tense marking in Black English. A study of the variable absence of the two tense marking suffixes -ed and -s and the absence of concord in the form be led us to conclude that the three phenomena do not yield to a single unified solution. Nor is a radically different tense structure appropriate for Black English. The absence of -ed is due to rules of phonology which operate on the phonetic segments representing -ed almost without regard to syntactic function. The absence of -s is to be accounted for, in the case of some speakers, by assuming that the rule inserting -s as a suffix to nonpast verbs with third person singular subjects does not exist. For other speakers, the concord rule exists, but as a variable rule. In neither case was there evidence for positing a profound difference in tense structure for Black English, since the nonpast tense only takes a suffix with third person singular subjects in any variety of English. The explanation for be, once the various standard English usages and cases arising from the deletion of contractions are sorted out, does represent a rather substantial difference from the standard dialects. Sentences with genuine distributive be are to be understood semantically as indicating

objects or events distributed intermittently in time, and syntactically as involving the (Black English) option of not selecting tense in sentences in which the main verb is to be.

7.1.2 The unity of Black English. Comparison of the results of the analysis of the Washington data with earlier analyses of data from New York by Labov and his associates and from Detroit by Wolfram showed that there is a great deal of unity in the structure of Black English in all three cities. Our results parallel the results of the other two studies except for minor details. It seems reasonable to infer that variation in Black English, in northern cities at least, is not greatly affected by geography.

7.1.3 Correlation with social factors. It was possible to demonstrate that the linguistic features investigated correlated with age, social class, style, and race of interviewer in Washington in the same way that linguistic and social factors were seen to correlate in other studies. The features did not, however, correlate with the sex of the speaker.

7.1.4 Application of variable rule theory. Labov's (1969b) concept of the variable rule was applied to the analysis, and with one modification was well-suited to the formal incorporation of several variable phenomena into the grammar of Black English.

7.2 Linguistic results. The investigation of -ed led to a detailed analysis of final consonant absence. In spite of the amount of work which has gone into the study of this feature, it was possible to come to only a tentative conclusion. For Labov, a t,d deletion rule by which final [t] and [d] are removed, whether they are members of final consonant clusters

or not, is necessary. Wolfram suggests that the absence of final [d] after a vowel is a different phenomenon from the absence of [t] and [d] after consonants and does not provide for the absence of final [t] after a vowel at all. Although much of the crucial evidence was not available, we decided that a final stop deletion rule, which is an expansion of Labov's final t,d deletion rule to include the deletion of [k] and [p] after [s], is the appropriate solution. The inclusion of more of the relevant evidence could well reverse the decision in favor of Wolfram's analysis or in favor of the analysis of Charles-James Bailey, which is outlined in chapter 2.

No previous analysis of Black English accounts for the absence of -ed when represented by [id]. The suffix in this phonological shape was found to be variably absent in the Washington data and rules for its deletion are proposed. Unlike the final stop deletion rule, these rules are not socially stigmatized; the absence of [id] is quite common in prestige dialects of American English also.

The analysis of verb concord -s led to discussion, and rejection, of code switching as all but a very marginal explanation for the variable absence of -s. Many speakers of Black English may well lack the concord rule for verbal -s, but others apparently have it as a variable rule. Although a number of syntactic and phonological factors were studied as possible constraints on variability of the rule, none were found. There was evidence that further study might show that the form doesn't is significantly more likely than any other verb form to show the absence of the -s suffix.

Although a small amount of contradictory evidence was found, the bulk of the data on distributive be support my earlier (Fasold 1969b) analysis. Care must be taken not to confuse Black English distributive be with other appearances

of be in English; genuine distributive be has the meaning "intermittent distribution in time", and results from the absence of a tense formative in sentences in which to be is part of the main verb phrase.

7.3 The use of statistics. In chapter 1 we discussed the introduction of chi-square test in linguistic and social analysis. It was there suggested that linguistic regularities might be so profound as to make the test irrelevant. The statistical analyses which were made in the course of the linguistic analysis tended to support the suggestion; in the great majority of cases the chi-square test showed that the level of confidence was much better than .001. In the study of correlation with social factors, statistical significance turned up only sporadically, but the general patterns repeated themselves for feature after feature, whether statistical significance could be demonstrated or not. These facts seem to indicate that statistical tests tend to be superfluous for linguistic analysis, even of variable phenomena, and are not particularly helpful in the analysis of the influence of social factors on speech. For studies like the adverb correlation study to establish the semantics of distributive be, however, the demonstration of statistical significance was a positive contribution to the argument.

7.4 Conclusion. The present study is intended to expand and clarify our knowledge of the structure of Black English. It is hoped that the goal was achieved. A deeper purpose was to demonstrate that there is much to be learned from the careful study of variation in actual speech. If the present study contributes to the development of interest in the importance of variation for the understanding of natural language, it will have been worth the effort.

ANNEX: NOUN PLURAL ABSENCE, by Carolyn Kessler

Current studies in urban dialectology have shown that the correlating of social and linguistic variables can lead to insights into the stratification of the various socioeconomic subclasses as well as the nature of underlying structures. Among the linguistic features characterizing Black English, for example, is variation in the realization of the noun plural marker. It is the purpose of this paper to study sociolinguistic correlates of noun plural realization and to attempt to determine the grammatical or phonological constraints on plural absence. Socioeconomic class and age are the social variables examined for correlation with plural absence.

In standard English the plural marker for nouns has three phonologically conditioned variants, phonemically symbolized as /-z ~ -s ~ -iz/. In addition to these same three realizations, Black English also has the absence of any overt marker--Ø--in place of a regular phonologically conditioned variant. Wolfram (1969:143-152) summarizes environments in which the plural marker may be absent as: (1) cooccurrence of a noun with an inherently plural quantifier, involving monetary terms in many cases; (2) change in noun subclassification; and (3) presence of word-final /n/. These factors will be considered in studying the grammatical and phonological sensitivity of the absence of the plural marker.

For the present study, taped interviews of twelve speakers

were analyzed. The twelve speakers, six male and six female, were equally divided among four socioeconomic classes as determined by the Index of Status Characteristics ratings (Warner et al. 1960): upper middle (UM), lower middle (LM), upper working (UW) and lower working (LW). Each subgroup comprised an adult, an adolescent, and a child. Of the total interview, [see Appendix A], only the narrative and the plural Word Game were analyzed. The major portion of the analysis rests on the narrative, for as Fasold (1969:765) points out, "The best kind of evidence is that produced in running texts of conversation in which language is not a focus."

The procedure for recording information from the tapes involved noting on a form sheet for each speaker the potential occurrence of all plurals appearing in the narrative, indicating the immediately preceding and following contexts, and the formation of the plurals in the Word Game, specifying any irregularities. In tabulating results, contiguous occurrences of the same lexical item were counted no more than two times. Cases in which a potential plural appeared before a sibilant were omitted.

In recording the presence or absence of the plural marker, some instances were indeterminant. Careful listening often revealed the presence of the plural, but only as a weakly articulated form. This difficulty arose with singular regularity. On the hypothesis that such indeterminacy could give an insight into the structure of the plural in Black English, these cases were counted. Therefore, in addition to $\underline{\emptyset}$, a lenis form of the regular sibilant realization was also treated in the analysis. Counting these indeterminate cases, even more than counting cases of absence, introduced the problem of phonetic reliability and experimenter bias, but the possibilities of further exploration into the Black English plural seemed to justify the risks. Absence will be symbolized by $\underline{\emptyset}$,

the lenis sibilant by z, and Z will be used as a cover symbol for the regular phonologically conditioned variants /iz/, /s/, and /z/.

Tabulation of all potential occurrences of the plural marker in the narrative material listed 502 potential instances. Of these, 403 were overtly marked; 57 were cases of absence; and 42 were indeterminate. Unmarked instances accounted for 11.3 percent and 8.3 percent were indeterminant, giving a total of 19.6 percent varying from the regular phonologically governed realizations. Of the 502 potential instances, 137 were among the upper middle class speakers, 150 among the lower middle, 118 among the upper working, and 97 among the lower working classes.

Correlation of the frequency of plural marker absence or indeterminacy with the respective social classes shows clear-cut stratification. Percentages of ∅ and z are summarized as follows:

Class	∅	z
UM	2.1	0.0
LM	5.3	6.0
UW	21.3	9.4
LW	21.6	22.6

Figure A1 illustrates class stratification for the absence of the plural marker.

Sharp stratification (Wolfram 1969:120-121) separates the middle from the working classes. The two lower classes, upper and lower working, are not significantly distinguished from each other and only a marginal difference holds between the upper and lower middle groups.

Combining plural absence with indeterminacy with the percentage of z represented in the shaded areas (see Figure A2), indicates that the pattern of sharp differentiation is maintained. Note, however, that a high percentage of z for the

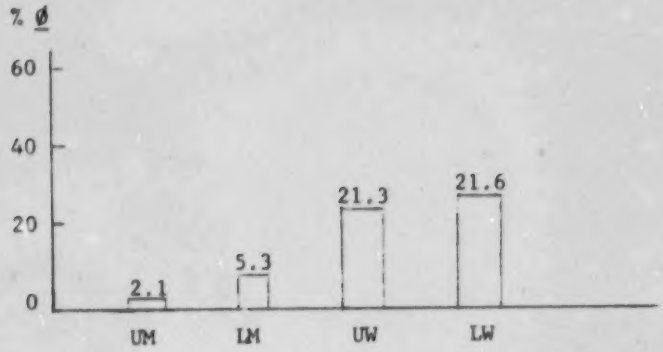


Figure A1. Class stratification of Ø.

lower working class serves to separate that class from the upper working and middle classes more distinctly.

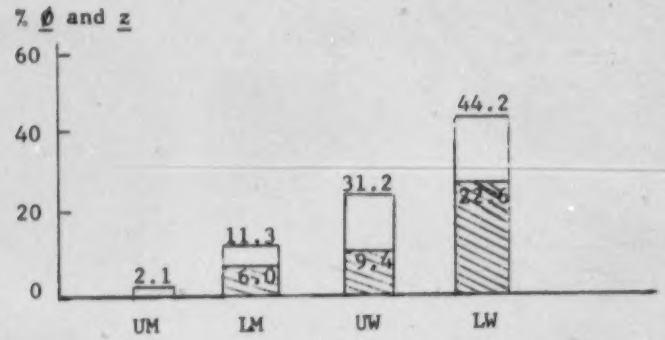


Figure A2. Class stratification of Ø and z.

From examination of the figures, it becomes apparent that plural absence is socially diagnostic. With lowest frequency in the upper middle class and highest in the lower working, it represents a stigmatized feature of Black English.

Investigation of the occurrence of plural absence or indeterminacy over several age levels reveals gradual alterations in the linguistic habits of children as they move into adulthood. As Labov (1966b:58-75) points out, "The most

important influence upon a person's native speech pattern is the group of friends and associates of his own age, during his pre-adolescent years." This statement implies that children acquire the speech characteristics of the social class of which they and their friends are a part. If this is true, the speech of the 10-to-12-year-old children in the present study should show the type of stratification characteristic of their respective social classes. Adult speech patterns, on the other hand, are ultimately established through modifications brought about by contact with the prestige norm. From this one may conclude that children would be expected to show the highest percentage of plural absence, adults least, and adolescents intermediate. However, the expected clear-cut stratification does not occur, as the irregular pattern of Figure A3 illustrates.

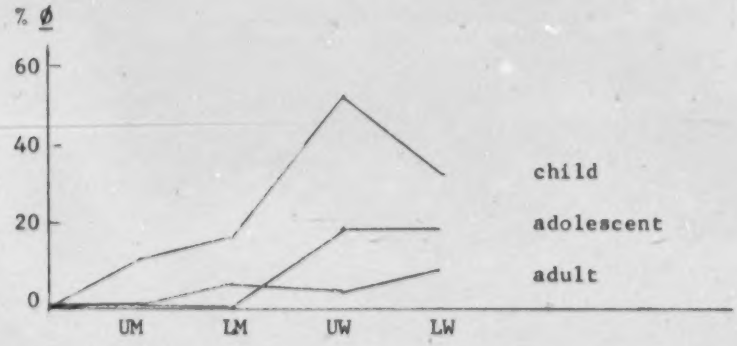


Figure A3. Covariation of age and social class with Ø.

An even more irregular pattern occurs for the correlation of the indeterminant z with age and social class.

In discussing the relative stability of class patterns, Labov (1966a) notes that the lower middle class, followed by the upper working class, could be expected to show the greatest amount of change through time. The lower working class with its more limited opportunity for contact with the prestige form

and the upper middle class with its large measure of prestige forms already well established would show the least amount of change. A regrouping of the four social classes into three by combining the lower middle and upper working redefines the stratification of age correlated with social class in the use of plural absence. Figure A4 gives a clearly defined stratification by age groups.

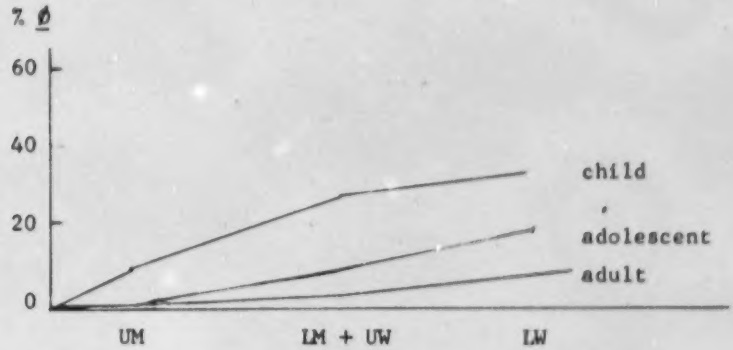


Figure A4. Redefined age and social class covariation with ∅.

With the exception of those in the upper middle class, children show a relatively high degree of the stigmatized features. Adolescents approximate very closely the speech patterns of adults for all but the lower working class, where they are intermediate between children and adults.

Redefinition of the social class groupings also results in stratification of z. In this case, the speech of adults and adolescents is almost identical, in marked contrast to that of children. The percentages of ∅ and z are given in the following arrays.

	Plural Absence			Plural Indeterminacy		
	UM	LM+UW	LW	UM	LM+UW	LW
Adult	0.0	5.0	10.5	0.0	8.3	15.8
Adolescent	0.0	7.4	20.0	0.0	6.0	16.3
Child	8.8	27.3	34.7	0.0	21.7	43.4

Consideration of the lower middle and upper working classes as a single group corroborates Labov's statement (1966a: 325): "The middle-ranking members of lower status groups, such as the upper sections of the working class, or the lower middle class, will come into broader contact with the prestige forms, and we would expect some weakening of their use of the stigmatized form as they grew older." This behavior of the presence or absence of the plural marker indicates that no linguistic change in its social significance is in progress. Only among children is there any trace of this feature in the upper middle class. On the opposite end, however, both adolescents and adults maintain a relatively high degree of plural absence and indeterminacy. The difference between that for children and adults may probably be attributed to the opportunities for exposure to standard speech patterns.

In an experiment conducted with sixteen 6-to-8-year-old girls, equally divided between Negro and white and of approximately the same middle class environment, the plural Word Game of the questionnaire was used to determine any possible differences between the two groups. Each of the speakers was interviewed individually. Using storybook picture cues, the interviewer asked for the plural of each of the fifteen items of the word game: tree, plum, dress, lun, stick, kas, dish, crutch, niz, sheep, can, gutch, desk, wug, foot. Both groups showed almost equal difficulty with the irregular plural formations for sheep and foot. Hypercorrect forms appeared about 50 percent of the time for both groups. Both groups showed regular phonologically conditioned variant selection for can, plum, wug, dress, dish, stick. One Negro child did not use a marker for the plural of crutch, and another for tree. The nonsense items caused some difficulty. One Negro and one white child omitted the plural marker for gutch. For the white children no errors appeared for niz, but two Negro children used Ø. The plural absence for lun was noted for one white and two Negro children.

Divergence between the two groups occurred with the items desk and kas. Of the eight Negro speakers, four gave the plural of desk as /desɨz/ and two as /des/. For 50 percent of the white children the plural was given as /deskɨz/. Four white and three Negro children had difficulty with kas. For the white children, the plural remained unmarked. Among the Negro children, alternation occurred between absence and /kasts/. Both groups showed basically the same patterning for plural formation with the exception of the noun ending in a consonant cluster. Except for kas, no cases of plural absence occurred for the white speakers, whereas five of the fifteen items had instances of plural absence for the Negro children. This experiment, by matching a fairly homogeneous group of Negro and white children, supported findings that plural absence is a feature associated with Black English.

In analyzing the Word Game for the twelve Washington speakers, approximately the same pattern appeared. The word desk for ten of the speakers varied in plural formation from /desɨz/ and /des/ to /desk/ and /deskɨz/, again demonstrating the differences in the final consonant cluster simplification rule for standard English and Black English. The regular plural variant /ɨz/ occurred consistently for dress, dish, crutch, as well as the regular variant /s/ for stick. The nonsense items wug, lun, niz, gutch, kas, caused some difficulty. The plural of wug was absent in one case, and /ɨz/ appeared in four others, one of which showed the change of final /g/ to /ǰ/, which then triggered the regular /ɨz/. One case of plural absence each was noted for gutch and niz. An average of one-third of the realizations of words ending in a nasal -- can, plum, lun -- were either Ø or z. Four instances of indeterminacy occurred for tree.

Among the conclusions that may be drawn is that the black speakers definitely have the underlying noun plural with all

three phonologically governed variants, /-z ~ -s ~ -iz/. Apart from the immediate problem of plural formation is the difference in Black English and standard English of rules governing final consonant clusters. The phonological difference noted in the plural formation of desk was corroborated in the pronunciations consistently occurring in the reading passage for desks and tests. Seven speakers read desks as /des/, three as /desk/; nine gave tests as /tes/ and one as /test/.

Since it appears that Black English does have an underlying plural, the problem that arises is finding the grammatical and/or phonological constraints accounting for plural absence.

As stated previously, some linguists working with the analysis of Black English have noted that absence can be conditioned by the juxtaposition of an inherently plural modifier, such as three or many, with the noun. Premodifiers of this type are referred to here as numeral and non-numeral quantifiers, respectively. The latter type includes expressions such as one of, couple of. Certain types of nouns or changes in noun subclasses have also been cited as constraints causing plural absence. Omitting all cases of indeterminacies, the presence and absence of the plural marker was examined for evidence of the operation of these conditions.

Of the total potential occurrences of the plural marker, Figure A5 gives the percentage absence of the plural in the environment of a numeral, a non-numeral quantifier, and a noun phrase consisting of an optional determiner and adjective of the pattern (Det) (Adj) N.

From Figure A5 one might at first conclude that a numeral preceding the noun favors absence of the plural. However, the total number of plural absences in this environment was very low; lexically, the noun cent accounted for five of the eleven

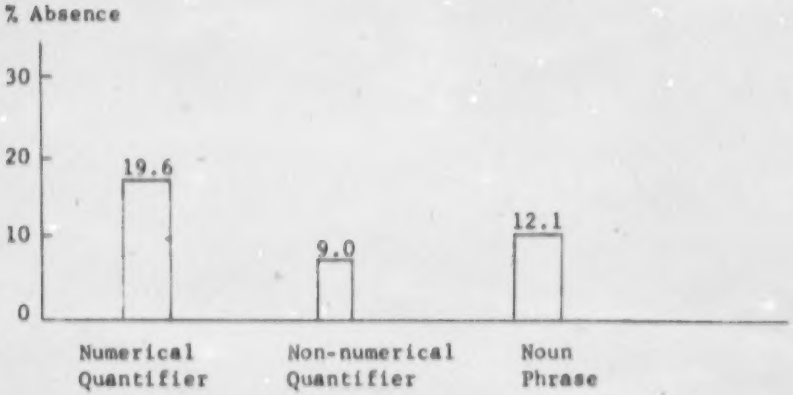


Figure A5. Percent plural suffix absence in various grammatical environments.

instances. This undoubtedly skewed the results. Also from Figure A5 one might judge that non-numerical quantifiers tend to disfavor plural absence, but again this is based on insufficient data, only eight instances. A somewhat more meaningful relationship is given in Figure A6, in which numeral and non-numeral quantifiers are combined.

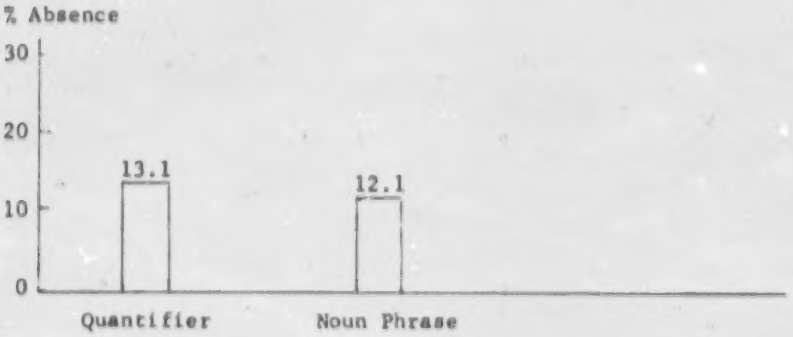


Figure A6. Comparison of percent plural absence after a quantifier and after a noun phrase.

The difference between plural absence when a quantifier precedes and when it does not is only 1 percent. Apparently none of the grammatical environments investigated is a constraint on plural absence.

In three of nine instances the noun movies is realized as movie. This coupled with the high percentage of cent for the expected cents remains unexplained. To suggest, as Wolfram (1969:145) has, that they actually have undergone a change with regard to their position in noun subclasses does not satisfactorily account for variation within the same interview in which both marked and unmarked forms occur.

Since no clear-cut grammatical constraints on plural absence emerged, a closer examination of the occurrence of the three phonologically conditioned plural variants was undertaken. The distribution of the absence of the three variants among the four social classes was examined. The percentage of absence was calculated from the total potential plurals for each class:

	Potential	/z/-absence	/s/-absence	/iz/-absence
UM	N = 137	2.1	0.0	0.0
LM	N = 150	4.0	1.3	0.0
UW	N = 118	16.1	3.3	1.6
LW	N = 97	18.5	2.2	1.0

This array suggests that absence of the variants is ordered by social class. The /iz/ variant is realized categorically for the middle class, and almost categorically for the working class. Consequently, the absence of /iz/ is zero or almost zero percent. The /s/ variant appears categorically for the upper middle class, almost categorically for the lower middle class, and only slightly less frequently for the working class. The most frequently absent variant is /z/; absence is socially stratified with the lowest frequency of /z/ absence occurring in the upper middle

class, the highest for the lower working group. These data demonstrate that there is an implicational ordering for the realization of /z/, /s/, and /iz/ (see Figure A7).

	/z/-absence	/s/-absence	/iz/-absence
UM	~	0	0
LM	~	~	0
UW	~	~	~
LW	~	~	~

Figure A7. Implicational ordering of the absence of the three variants of the plural suffix.

In effect, this ordering specifies that /iz/ can be absent only if /s/ and /z/, in that order, are also sometimes absent. No categorical absence of any of the variants appears.

Next, the phonological environments in which potential plurals occur were studies: (1) V#__##C, (2) V#__##V, (3) V#__##, (4) C#__##C, (5) C#__##V, (6) C#__##. Since all the plurals under investigation are, of course, grammatical suffixes, all environments include a preceding morpheme boundary and a following word boundary. When the occurrences of deleted forms in each of these environments were observed, a definite pattern for the distribution of absences in the various environments in the four social classes emerged. The following summary gives the total instances of plural absence for each position:

	C#__##	C#__##V	C#__##C	V#__##	V#__##V	V#__##C
UM	1	2	0	0	0	0
LM	3	3	2	0	0	0
UW	16	3	5	7	0	0
LW	8	3	3	5	2	0

From this distribution arises an implicational ordering which gives the categorical absence of any plural deletion in the environment V#__##C and allows variable deletion in C#__##,

for all social classes. Deletion in any of the right-hand environments implies the possibility of deletion in all environments to the left:

	C#__##	C#__##V	C#__##C	V#__##	V#__##V	V#__##C
UM	~	~	0	0	0	0
LM	~	~	~	0	0	0
UW	~	~	~	~	0	0
LW	~	~	~	~	~	0

The validity of this ordering may be questioned, particularly since it is based on a limited number of instances. Furthermore, to say that a following vowel tends to inhibit suffix deletion is somewhat counter-intuitive. That a preceding vowel inhibits deletion more than a preceding consonant, as the above array indicates, seems reasonable.

Most deletion occurs following consonants. Of the 57 instances of plural absence, 86 percent followed a consonant. In the specific environment following nasals, absence occurred 24.6 percent of the time, presence 25.3 percent. Following liquids, absence was noted in 24.5 percent of the occurrences, presence in 23.0 percent. Absence following stops occurred in 36.8 percent of the total 57 instances, presence in 36.7 percent of the 356 instances. This nearly one-to-one ratio between presence and absence in these consonantal environments seems to disclaim any statements that plural absence is favored in the environment following /n/ (cf. Wolfram 1969:146).

As a result of the study of noun plural realization in Black English, one may conclude that an underlying form |z| is present in the grammar. From this underlying form derive the three variants of standard English, /ɨz/, /s/, and /z/. All three may potentially be absent in Black English, with probability the highest for /z/. No grammatical constraints to prevent overt plural realizations were identified. Phonological

environments in which absence occurs are stratified by social class, but ranking of phonological constraints can be established only tenuously. Incidence of absence appears to be slightly higher in postconsonantal and prephrase boundary positions, although the tendency is slight.

In the present study, the indeterminate cases of plural presence or absence were counted and included in some parts of the analysis. In many cases it was noted that this very weakened realization of the plural was at the same time accompanied by an increase in the tenseness of the stressed vowel. The question arises that possible yet unanalyzed phonological factors are at work in Black English, and that these factors may ultimately be contributing to deletion of final consonants, such as those involved in marking the plural. The lenis sibilant may provide a clue to this process.

The analysis of the noun plural realization in Black English is a complex one. Overt plural markers are clearly a part of the grammatical structure of Black English, showing the same phonologically conditioned variants as standard English. Consequently, the patterned variability between Black English and standard English with regard to absence of any marker is not due to dialect mixture. Occurring at a grammatical and phonological intersection, Black English plural realizations could have constraints coming from either or both directions. Conclusions drawn from this study, however, exclude grammatical sensitivity and weakly point in the direction of phonological constraints. As suggested above, the actual constraints may be in some other aspect of Black English phonology. Or, perhaps it is simply a case of that type of inherent variability which has no significant conditioning factors.

The absence of an overt plural marker is a socially diagnostic feature of Black English. Sharply stratified, it is a

stigmatized feature separating the middle and working classes. Age in covariation with social class also shows stratification, with children having highest occurrence of plural absence, adults least, and adolescents alternating between proximity to adult and children's speech. This type of stratification for the noun plural corroborates the work of Wolfram.

The findings of this study are based on a very limited number of speakers. Any conclusive statements about the realization of the noun plural in Black English will require validation by recurrence of the same patterns in a more extensive sampling.

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APPENDIX A: Questionnaire

ELICITATION OF NARRATIVE

I. Games and Leisure

A. What kinds of games do you play around here? (For adult or teen: What kinds of games did you play as a child?)

1. Note each game and ask about how some of these are played, number of players, etc.

2. Get ways of deciding who is "It", use of rhymes.

B. What are your favorite TV programs (theater plays, movies)? (Elicit episode.)

C. Do you have a pet? Tell me about it.

II. School

A. Tell me about your school. What do (did) you study? What do kids do after school is out? (What did you do as a child after school was out?)

B. Did you ever have a teacher who hollered a lot? What about? Did you ever get yelled at? What about? Was it fair?

C. Can you tell me about the best teacher you ever had? Why did you like her?

D. Did you ever have a teacher you just couldn't stand? What didn't you like about her? Did the kids in your class ever play a trick on the teacher?

III. Group Structure

A. For child: Is there a bunch of kids you always hang around with and do things with?

B. For adult: Is there a group of people you used to associate with?

C. Do any of the people in the group speak any foreign languages?

D. Are there any white people in the group?

E. In your group, is there any one person that everybody listens to (regards as the leader)?

1. Why?

2. Can (could) new kids get into the bunch? What do (did) they have to do?

IV. Aspirations

A. If you could do it all over again, what would you want to be? (Not to be asked of children.)

B. What do you want to be when you finish school? (What did you hope to be when you were younger?) How long does it take to become a _____? What does a _____ do? If you had all the money you wanted, what would you do with it?

C. Your job (for working people). Describe what you do in a day's work. Where do you work? (This question may also be asked of housewives.)

V. Special Occasions

A. How does your family celebrate the holidays? (Especially Christmas.)

B. What would you like for Christmas this year? (What was the best Christmas present you ever got?) Describe it.

VI. Fate

A. Were you ever in a situation where you thought you might be killed or might die?

B. Sometimes people say that whatever is going to happen is going to happen. What do you say about that?

WORD GAMES

Now we're going to play some games with words.

I. Plural: First we're going to see if you can tell if some words are real English words or not. I'm going to show you some pictures and tell you the name of the thing in the picture. You tell me if there's any such thing or not.

A. Show the first card and say: "This is a tree. Is there any such thing?" After interviewee answers, show the second card and say: "Now here's a whole bunch of them. These are _____." Induce the person to give the missing word. Either "trees" or "tree" is acceptable.

B. "This is a plum. Is there any such thing?" "Now here's a whole bunch of them. These are _____."

C. "This is a dress. Is there any such thing?" "Now here's a whole bunch of them. These are _____."

D. "This is a lun. Is there any such thing?" "Now here's a whole bunch of them. These are _____."

E. Same thing for "stick" and "sticks".

F. Kas and kases.

G. Dish and dishes.

H. Crutch and crutches.

I. Nix and nixes.

J. Sheep and sheep.

K. Can and cans.

L. Gutch and gutches.

M. Desk and desks.

N. Wug and wugs.

O. Foot and feet. On the second card, say: "Now here are two of them. These are _____."

II. Possessive: Now we're going to ask you to fill in the blanks in a different kind of question.

A. Using pictures, say: "This man has a hat. It's not the woman hat, it's the _____."

NOTE: It is very important that you say "woman hat", not "woman's hat". The same is true for all questions in this test. If an interviewee corrects you, you may begin saying "woman's hat", etc.

B. "This girl has a bike. It's not the boy bike, it's the _____."

C. "This dog has a bone, it's not the cat bone, it's the _____."

D. "This mouse has some cheese. It's not the rat cheese, it's the _____."

E. "Jack Johnson has a car. It's not Paul Brown car, its _____."

F. "Derrick Black has a toy. It's not Paul Brown toy, it's _____."

III. Auxiliary probe: This time, you're going to hear some sentences and a lady answering them. After you hear some examples, you're going to get a chance to hear some more sentences and see if you can answer them like the lady does.

	Male Voice	Female Voice
A.	He can drive a motorcycle. Can what?	I know he can. Drive a motorcycle.
B.	The teacher could be wrong. Could what?	I know she could. Be wrong.
C.	Darryl hit his brother. Did what?	I know he did. Hit his brother.
D.	Them boys over there, they can beat up anybody. Can what?	I know they can. Beat up anybody.
E.	My cousin should do his work. Should what?	I know he should. Do his work.

(From this point on, the field worker must ask the second question based on the interviewee's answer to the first.) Now you try. Some of these don't have any answers at all, so if you don't think there is any answer, say so.

1. John can climb that tree.
2. Doris put it down.
3. He bigger than me.
4. If he got a walkie-talkie, he be happy.
5. Sometime Joseph be up there.
6. They first-graders.
7. Dwight been met that girl at the pool.
8. Those men should work harder.
9. He be in 'n a few minutes.
10. He been a bus driver for ten years.

11. Sometime my ears be itching.

12. He been living there a long time.

IV. Question inversion: This time, you're going to hear the man on the tape say two sentences. The lady is going to put them together. After you hear some examples, you will hear some sentences and we'll see if you can put them together in the same way.

	Male Voice	Female Voice
A.	John told me this. Roy was going home.	John told me that Roy was going home.
B.	John thinks this. Mary is cute.	John thinks that Mary is cute.
C.	John told me this. Go home.	John told me to go home.
D.	John remembers this. Peter hit his brother.	John remembers that Peter hit his brother.
E.	John told Peter this. Bring a pencil.	John told Peter to bring a pencil.

(Now you try.)

1. John thinks this.
   Peter is stupid.

2. John told Raymond this.
   Go home.

3. John asked me this.
   Did the mail come yet?

4. John knows this.
   Gary has a bike.

5. John wonders this.
   Is there water on the moon?

6. John thinks this.
   The job is too hard.

7. John wants to know this.
   Can the boys come over?

8. John asked him this.
   Where did they go?

V. Relative pronoun deletion: This one is like the other one, only you have to change one sentence into another one.

Male Voice	Female Voice
A. He saw that man.	That's the man he saw.
B. He plays with that boy.	That's the boy he plays with.
C. He rides that bike.	That's the bike he rides.
D. He gave it to that girl.	That's the girl he gave it to.
E. He drives that car.	That's the car he drives.

(Now you try.)

1. He likes that boy.
2. That dog bites people.
3. He beat up that boy.
4. That boy hit me.
5. He hates that teacher.
6. I go to school with that kid.

VI. Word-final consonant clusters with -ing: Now you're going to hear the man and the lady again. This time, the lady repeats what the man says and then makes a new sentence. Listen to the examples and see if you can do what she is doing.

Male Voice	Female Voice
A. They eat.	They eat. They are eating.
B. They write things.	They write things. They are writing things.
C. They play.	They play. They are playing.
D. They buy things.	They buy things. They are buying things.
E. They get things.	They get things. They are getting things.

(Now you try.)

1. They rest.

2. They ask.

3. They paste things.

4. They bust things.

5. They lift things.

6. They test things.

7. They risk their lives.

8. They clasp their hands.

VII. Word-final consonant clusters with -er: This time the lady listens to the man say part of a sentence and then finishes it for him. See if you can figure out how she is finishing it and then you will get the chance to try the same thing.

Male Voice	Female Voice
A. They run all the time, so we call them ...	Runners.
B. They write things all the time, so we call them ...	Writers.
C. They build things all the time, so we call them ...	Builders.
D. They buy things all the time, so we call them ...	Buyers.
E. They sleep all the time, so we call them ...	Sleepers.

(Now you try.)

1. They rest all the time, so we call them ...

2. They bust things all the time, so we call them ...

3. They lift things all the time, so we call them ...

4. They paste things all the time, so we call them ...

5. They taste things all the time, so we call them ...

6. They roast meat all the time, so we call them ...

7. They boost people up all the time, so we call them ...

READING

I. Pseudo-reading: Give interviewee cards. Read the numbers from one to ten.

one
two
three
four
five
six
seven
eight
nine
ten

Read the days of the week.

Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Monday

II. Standard Sentences

1. Last month I read five books.
2. Tom read all the time.
3. So, -- I sold my soul to the devil.
4. When I passed by, I read the posters.
5. When I like a story, I read every word.
6. They cost a nickel yesterday, but today they cost a dime.
7. Now I read and write better than Alfred does.
8. I look for trouble when I read the news.

III. Story

I always had a hard time in school. In grammar school, we played a game called Wolf and Sheep. The class would stand in a circle around the desks and clasp hands. One kid was the

wolf and one was the sheep. One time, I was the wolf and a kid named Sam was the sheep. I went around saying "woof, woof." The kids really laughed.

Miss Clark got mad at all of us. So she makes us sit down and tells us not to talk. For an hour, all you can hear is the clock going "tick tock." She thought I was a rat and I guess maybe she was right.

It got worse in high school. My best friend was a kid named Wes who lived out in Northwest. I told him we should take sewing and cooking. Wes told me that boys couldn't take that class, but I said, "Yes, they can."

The first day, the teacher asks me to get a tin can. Just as I'm reaching for one, I stub my toe and knock down ten of them!

The second day, we had to eat some ham the teacher cooked. I said, "Hey, there's a piece of dirt in mine!" But it turned out to be a clove.

Then we had to sew something to clothe a doll with. I decided to make a robe. The belt was the easiest part. I made it out of a piece of rope.

The first time I tried to bake a cake, I burned it. It was just a mass of black stuff. Since no one had a gas mask, we all had to leave the room. We couldn't breathe in there.

I didn't even learn how to boil water in that class, but I really had a ball.

One class I really hated was Health Class. It was all about taking care of yourself and diseases that caused death and people who were sick and blind and deaf. It was awful.

The worst part of the day came after I got out of school. As soon as I got in the house, I always got the same questions from my mother. "How was your day in school?" "Did you have any tests?" "What did you cover?"

IV. Lists: Read from cards.

wolf	west	mother	right	find	out
woof	Wes	cover	rat	fine	house
health	mass	breath	climb	they can	hound
self	mask	breathe	clam	tin can	how
sold	clasp	leave	Tom	pin	boil
soul	class	clove	time	pen	ball
so	pass	clothe	Sam		

coal	past	lathe	sight
cold		save	side
code		death	sod
feel		deaf	sad
field			

V. Minimal pairs: Ask interviewee to read cards across and tell if the words sound the same or different.

rows	rose	west	Wes	lane	lain
daze	days	mass	mask	time	Tom
wolf	woof	die	dye	side	sod
sold	soul	clasp	class	side	sad
soul	so			death	deaf
coal	cold			fine	find
cold	code			pin	pen
feel	field			boil	ball

APPENDIX B : List of Speakers

Upper-Class Control Sample

	Speaker No.	Sex
Adolescents	27	M
	69	F
Adults	04	M
	65	F

Upper-Working-Class Sample

Children	45	F
	55	F
	56	F
	58	F
	72	F
Adolescents	01	M
	06	F
	07	F
	12	F
	18	M
	26	M
	39	M
	85	M
Adults	73	F
	82	M
	84	M

Marginal Sample (between upper- and lower-working-class)

Children	59	F
	63	M
	64	M
	66	M
	67	M

Adolescents	25	M
Adults	31	M
	35	M
	40	M
	41	M
	71	F

Lower-Working-Class Sample

Children	02	M
	60	F
	61	F
	62	F
	76	M
	86	M
	87	M
	88	M
	89	M
Adolescents	05	M
	09	M
	10	M
	11	M
	13	M
	14	M
	74	F
Adults	08	F
	37	M
	83	M
	90	F

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